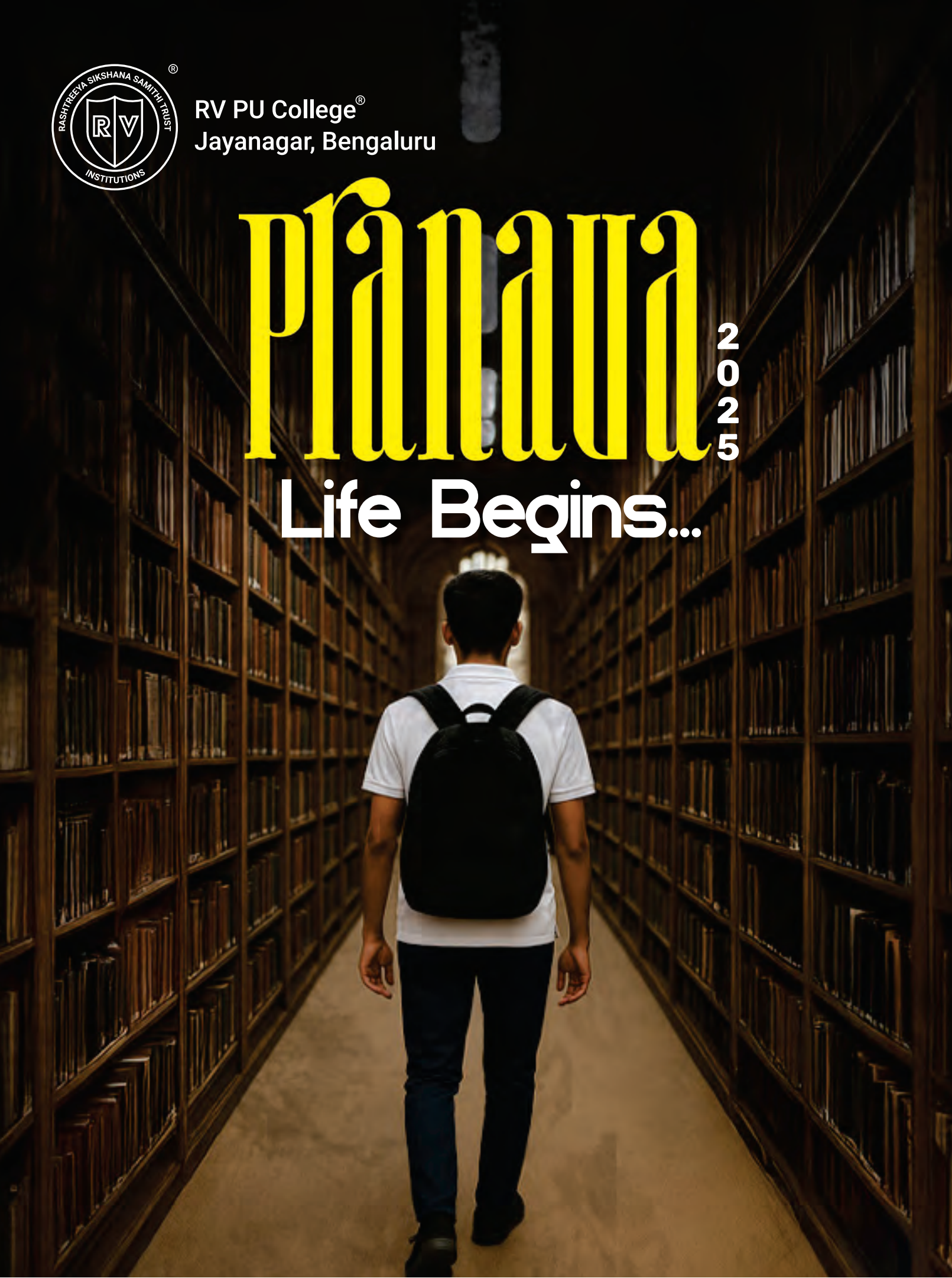
RV PU College®
Jayanagar, Bengaluru

Pranava 2025

Life Begins...



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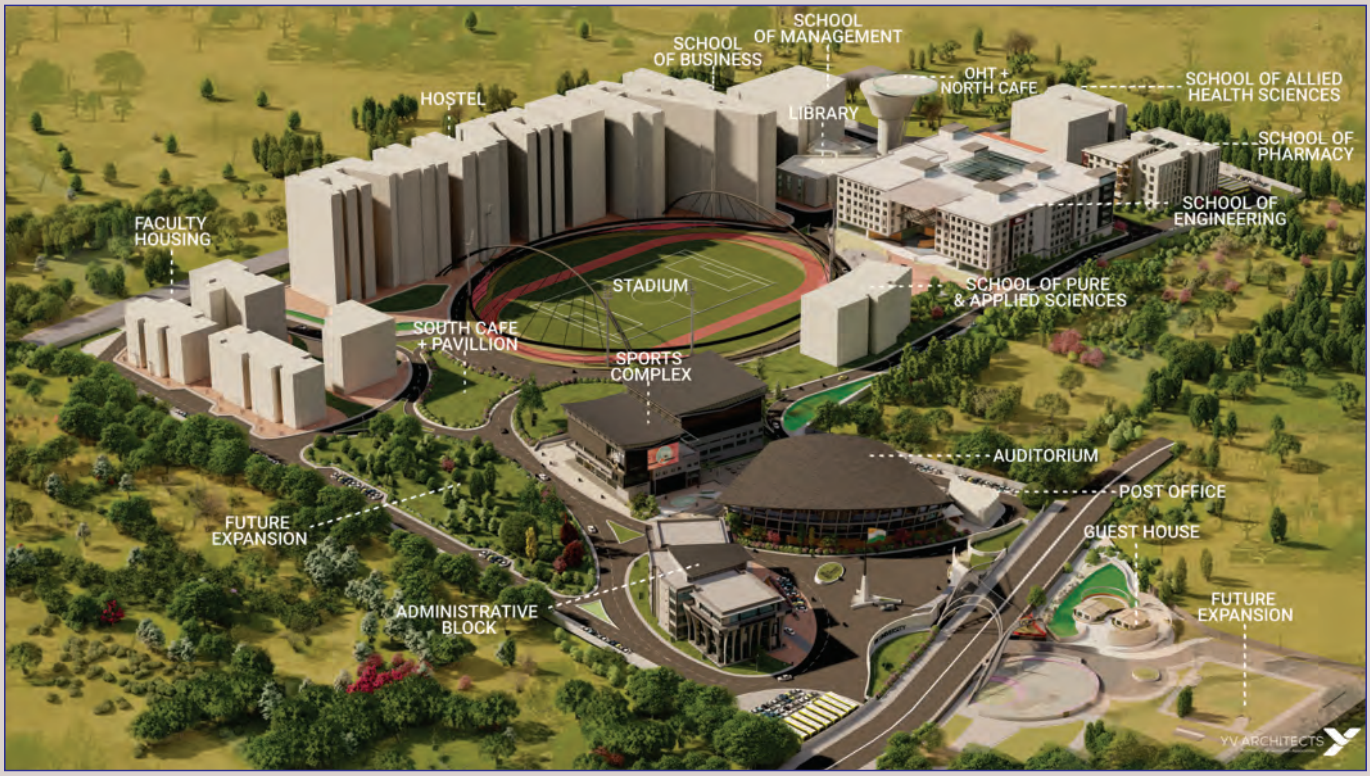

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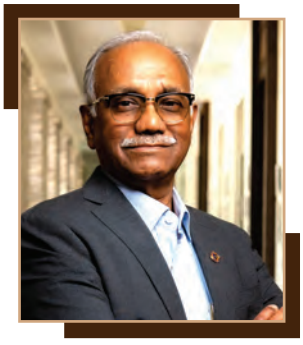

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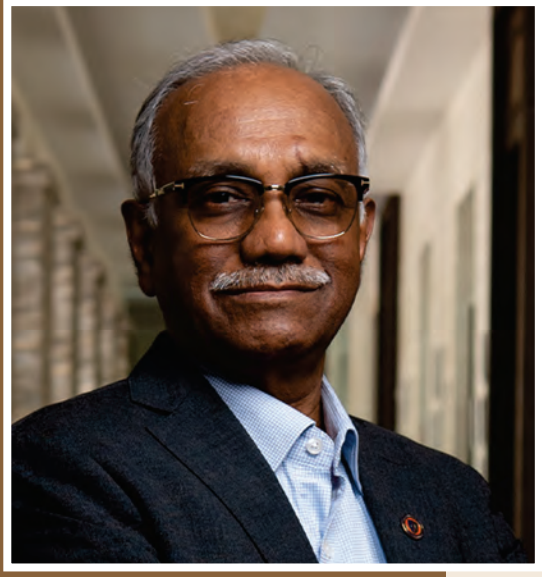

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Rashtreeya Shikshana Samithi Trust is growing in it's pedigree to reinforce all the support systems across the educational institutions in it's excellence cadre. The unprecedented challenges that surprise us intermittently, have only enhanced the expertise in us in providing sustainable solutions. As always, the expectations of our students from RV Institutions has nurtured our subject matter experts in scaling up to robust pedestals of Learning, building Skill sets and evolve reliable knowledge systems.

The two years of Pre-University is therefore pivotal in defining the prudent requirements across the STEM discipline. RV PU College, in the last 18 years, has established as an undeterred leader in offering excellent teaching, learning assessment procedures and Merit enhancement support systems in the Pre-University domain. It is required to ensure that students who join us must transform their personality and capabilities into highly responsible citizens of this country than become individualistic self-comforting achievers.

Pranava 2025, the RV PU College magazine is bound to convey the intent of education to all the stakeholders. May RV PU College make all concerted efforts to cherish sustained good Merit.

Dr. (h.c.) A.V.S. Murthy

Sri D.P. Nagaraj
Hon. Joint Secretary
Pro-Chancellor, RVU

RV Educational Institutions continue to make pioneering efforts in sustaining the brand RVian etched in each one of it's diversified student groups. In the path of Merit accomplishment, regular tested assessment protocols with the perspective of overall development of a student is bound to bring out the very best in our students.

It is required that we must consistently become capable of being the reliable support not only to our students but also to their parents too. In the growing socio-economic transformations, the parents would have inexplicable issues that we as an institution will be ordained to listen, clarify and support.

As such let us instill two very prominent parameters to uphold the legacy of RV Educational Institutions, they are, "On My Side" and "In Touch", must be nourished in all our interactions. Such value additions in our institutions will add nourishment to the brand value.

Through the RV PU College Pranava 2025 magazine, the message of On My Side and In Touch should reach out to all students, their family, teaching and the non-teaching staff. I am confident that RV PU College will continue to establish itself as the landmark for excellence in Pre-University Education.

D.P. Nagaraj

Sri Anant Kulkarni

CEO- BASE Educational Services

On behalf of BASE, I congratulate students and staff of RV PU College, Jayanagar on their annual event SUMERU & SAYONARA.

The BASE and RV PU College, Jayanagar team is doing a commending work by supporting you all by giving equal importance to board and competitive examinations during their two-year stint at the campus. I am sure you will fondly remember these days once you join the professional courses at Institutes of your choice. Best wishes for your future and wish you all to become finest professionals and nice human beings contributing to society.

Anant Kulkarni

Sri Thejesh S.
Principal

As I prepare to pen down my thoughts for our magazine Pranava 2025, am absolutely enthused and energized to share my learnings out of the recent real time experiences. The centre-stage of my experiences is precisely about nurturing the "Young Bright Minds" of our children who have joined us with immense expectations in building their future, not compromising on being their ethical best in terms of their personality, conduct, social responsibility and selfcare.

Children nowadays are coerced into exposure to too much of information in every form. I would emphatically present that this is the main reason for many issues the children succumb. There is no calibration of the information that the children should perceive for all ethical benefits.

Together, we as a committed family, the students, their parents, our academic and non-academic staff, will strive for the betterment in all facets of our students, the institution, the society and our country throughout, as always in all ways. Our Pranava 2025 magazine will surely enliven the minds of our children for their prosperous endeavors.

S. Thejesh

Thejesh S.

EDITORS MESSAGE

"Every page tells a story, and today we begin writing ours with you." With profound delight, we unveil the 15th edition of Pranava - Life Begins, a confluence of intellect, imagination, and inspiration.

As R.K. Narayan once said,"The essence of true creativity is not merely new ideas, but new ideas that work." A magazine is more than printed pages; it is a reflection of voices, thoughts, and dreams. Each article, poem, story, and feature you will find here is a testament to the hard work, passion and imagination of our students and faculties.

Where the pulse of progress meets the spirit of celebration, the Events Section offers a curated glimpse into the moments that matter - a series of remarkable events that lit up the calendar. From milestone of achievements to the joyful expressions of art and tradition, these events were more than just dates on the schedule — they were experiences that brought ideas to life.

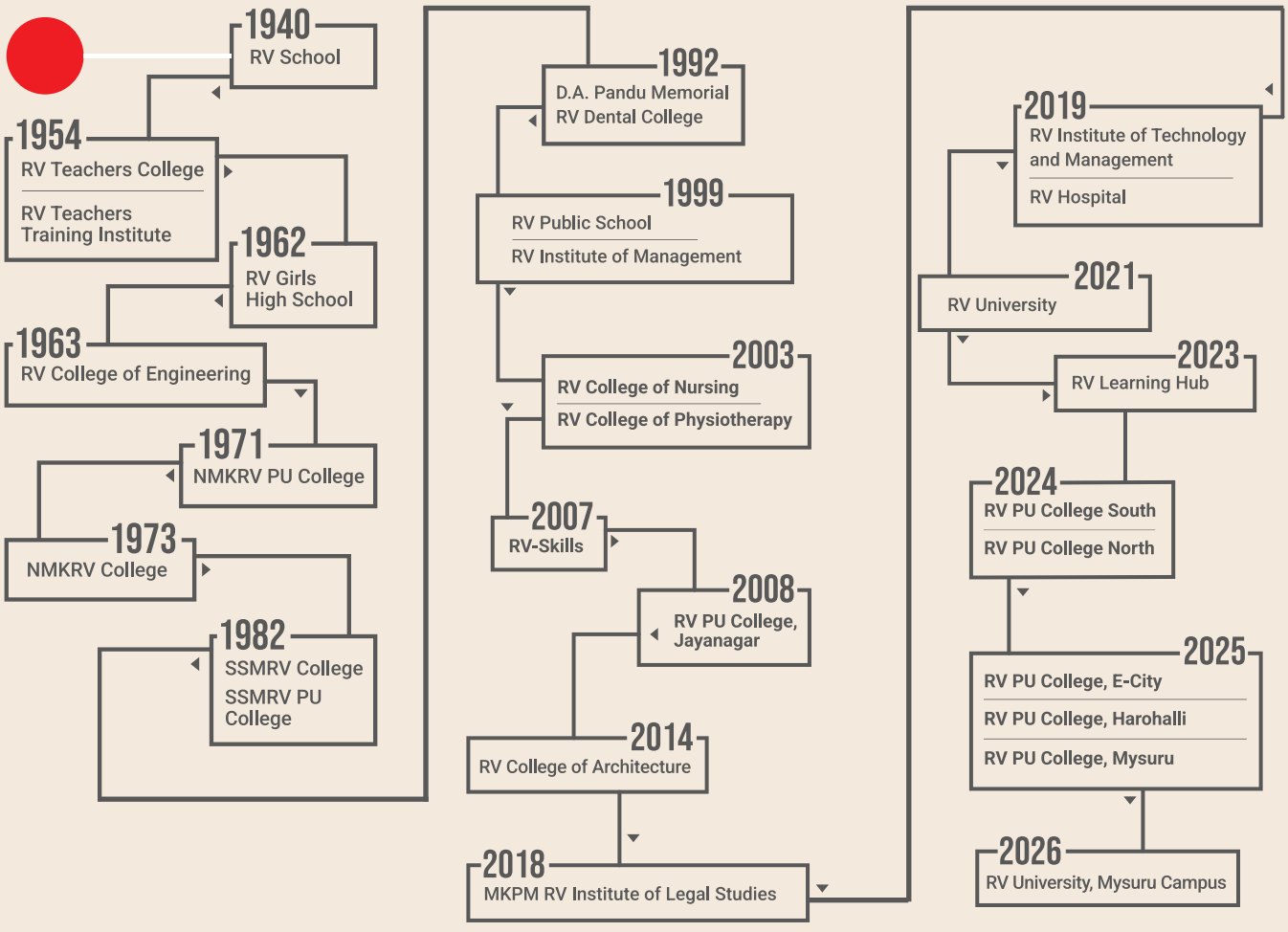
We heartily thank our dear Principal, Sri Thejesh S and Vice - Principal Mrs. Pooja Naik for entrusting us with their unwavering support. We owe our deepest gratitude to our colleagues for their invaluable contributions and to the non - teaching staff for their seamless collaboration. "A special recognition goes to Dyuthi team — the enthusiastic student editorial support. Our honest appreciation to student volunteers Abhay K P, Dhanya Joshi, Sindu S Iyer. Heartfelt thanks to the ever-talented RV Media Cell for the stunning and visually captivating cover design. We are equally grateful to Omkar Offset for their prompt, professional and high-quality execution.

As we turn the first page of this new chapter, may this magazine serve as a luminous beacon—celebrating expression, nurturing talent, and inspiring generations to dream beyond boundaries.

Here's to a Delightful Read!

A JOURNEY IN MOTION

From one institution to many, from city-wide impact to national reach, the journey continues—unfolding upward, outward and onward.



...and the journey continues.

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4	Surendranatha Reddy N R	Physics
5	Marula Siddeshwara	Physics
6	Mamatha B	Physics
7	Nagendra Prasad B K	Physics
8	Venkatesh K	Physics
9	Chandan	Physics
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11	Ravindra V	Chemistry
12	E Vijayakumar Setty	Chemistry
13	Murali Krishna K	Chemistry
14	Majeeda	Chemistry
15	Suchithra L Bhat	Chemistry
16	Mallesha	Chemistry
17	Shwetha B G	Chemistry
18	Ankitha	Chemistry
19	Deepak Chandra	Mathematics
20	Dr. Prakasha H T	Mathematics
21	Sunder S	Mathematics
22	Venkatesha B U	Mathematics
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27	Manjunath G	Computer Science
28	Karthick T S	Computer Science
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32	Pooja H R	Electronics
33	Divyashree C	Electronics
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35	Hema N	English
36	Samrita Adhikary	English
37	Jayakumara N	Kannada
38	Vidya H N	Kannada
39	Saroja Sawant S	Hindi
40	Dr. Rekha G	Hindi
41	Jaipal Y S	Sanskrit
42	Anandatheertha B	Sanskrit
43	Asha Purushotham	French
44	Pallavi K	French
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46	Min Mini G	Physical Education Lecturer
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5	Karthik M S	Physics
6	Basava Kiran G	Physics
7	Manasa G	Physics
8	Renuka P	Physics
9	Biswajeet Sahu	Chemistry
10	Shivananda Nayak	Chemistry
11	Sowmya Kumari S	Chemistry
12	Roopa H Alva	Chemistry
13	Vijaya Kumar S	Chemistry
14	Priya Narayan	Chemistry
15	H P Prakash	Mathematics
16	Dhana Kumar Jilla	Mathematics
17	Kamla Dhaka	Mathematics
18	Gaurav Kumar	Mathematics
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20	Veda B	Biology
21	Annie Anusha P	Botany
22	Rajani Bhat	Zoology

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22	Rahul S	Attender

SCIENCE ARTICLES

Known yet Unknown : Dark Matter

In the vast silence of the cosmos, lies a mystery greater than stars, planets, or galaxies themselves. We see its pull, we feel its grip — yet we cannot see it. It does not shine, it does not speak, but it holds the universe together. This invisible force makes up more of the universe than everything we've ever known — yet we barely understand it. In the language of science we call it Dark Matter.

Apart from the matter around us, there is more in the universe, that is dark matter. Not that it is dark in colour, but that it is not visible to us. Dark matter doesn't emit, absorb, or reflect light, making it completely invisible—hence the term "dark". Dark matter consitutes 27% of the universe as compared to the 5% of the matter that we see and what we call anything that has mass and occupies space.

"What is it made of?" This special type of matter is not made of atoms like ordinary matter (stars, planets, people), and we humans are not even sure of what consititues this matter. So, as of today, we have the leading candidate as Weakly Interacting Massive Particles (WIMPs) which could made up dark matter. As dark matter does not react with ordinary matter, we also have axions and dark sector particles which could make up dark matter as they also do not react with matter.

"Misconception!" It a very common misconception, that dark matter is antimatter, or the opposite of matter. However this is not true, because if it was antimatter, it would annihilate with matter and emit radiation, which we surely do not witness! Neither are they black holes, as the number of black holes can not fill up as much space of the universe which is left empty after ordinary matter is put into it. Neither is it regular dust, gas or other tinier particles which we can detect.

"If we cannot see it, how was it discovered?" It has some major effects which make it evident that there is something around there in the universe which we are not aware of. The fast rotation of galaxies are one of the significant reasons for the presence of dark matter. Galaxies within their clusters move very quickly. Without dark matter, the gravity from the visible matter wouldn't be strong enough to hold the cluster together, and it would fly apart and the universe would not exist as it Is today. Although It doesn't interact with light or other electromagnetic radiation, making it invisible to telescopes. However, it interacts through gravity, and that is how get detect the presence of some other kind of matter- Dark matter. Dark matter is like an invisible cosmic glue, as it glues all the matter of the universe together. Although makes up most of the matter inside galaxies, we humans have no clear way to detect dark matter yet.

"Detection of dark matter" Although we cannot really spot dark matter directly, we are attempting to find signs of its existence. We attempt to directly measure dark matter collisions in Earth-based experiments. Modern astrophysical instruments like the cosmic microwave background, have found out that 85% of the matter of the universe is unaccounted for.

Some experiments that are presently running include:

Jaduguda Underground Science Laboratory (JUSL)- Efforst to detect dark matter in India are taking place in JUSL, Jharkhand using liquid Xenon.

PandaX – An experiment (in China) which is trying to detect WIMPs using liquid Xenon.

COSINUS – An experiment that uses cryogenic calorie meters to search for dark matter.

Other experiments use devices and techniques like superheated liquid detectors, germanium and silicon crystals and annual modulation crystals.

"Who first found it?" Fritz Zwicky, a Swiss astronomer was the first to propose the existence of dark matter. Later noticing the gravitational effects of dark matter on galaxies, Vera Rubin, an American astronomer provided strong evidence about dark matter. The Coma Cluster is a cluster of 1000 identified galaxies, of radius 10 million light years. Zwicky's initial observations of the Coma

cluster suggested an unseen mass. Later Vera Rubin's research on spiral galaxy rotation curves in the 1970s offered direct and widespread evidence of the existence of dark matter.

Finally, another interesting phenomenon, is a dark matter star. It is an imaginary, hypothetical star which is imagined by scientists to understand the early universe.

We humans have glimpsed the shadows that shape our universe, yet the full truth remains just beyond our reach. Dark matter is the silent architect of galaxies and the invisible thread woven through the fabric of space.

One thing is certain: the universe is far stranger and more wondrous than we ever imagined. And the mystery of dark matter is far from over it's only just the beginning.

Naisha Chawda, 1A

Whispers of Turbulence: How Small Ripples Shape Big Systems : Kelvin-Helmholtz Instability

Fluid Contrasts: The Birthplace of Instability

Nature thrives on the interplay of contrast — hot versus cold, light versus dark, fast versus slow. One particularly striking contrast arises when two layers of fluid move at different velocities. In the tenuous boundary between them, a dance begins: ripples emerge, grow, and twist into spirals, often blooming into full-blown turbulence. This is the essence of Kelvin–Helmholtz ss

Helmholtz & Kelvin: Laying the Foundations

The origins of KHI trace back to Hermann von Helmholtz, who in 1868 theorized that discontinuities can naturally arise in a flowing fluid when a sharp velocity gradient exists at an interface. He suggested that a "surface of separation" would emerge between two adjacent layers of fluid moving at different speeds. Just a few years later, in 1871, William Thomson, later known as Lord Kelvin, developed the first linear mathematical framework for the instability while investigating how wind could generate waves on the ocean's surface.

Refining the Theory: Richardson's Contribution

Throughout the 20th century, the theory was refined to address more complex scenarios. A key development came in the 1920s, when British physicist Lewis Fry Richardson introduced the Richardson Number — a dimensionless parameter that quantifies the balance between shear and density stratification. His work helped predict under what conditions KHI would develop in a stratified fluid, such as the atmosphere or ocean. If the destabilizing influence of velocity shear outweighs the stabilizing effect of stratification, the interface becomes unstable — and KHI emerges.

Visualizing KHI: A River Above a Pond

The physical intuition behind KHI can be visualized by imagining a river flowing swiftly over the still surface of a pond. The interface between the two layers might seem calm, but even a tiny ripple at this boundary experiences asymmetric forces: the faster-moving water above pulls the ripple forward, while the slower water below resists. This velocity differential causes the ripple to tilt and grow. As it amplifies, a feedback loop develops - the core mechanism that defines the instability.

What Triggers KHI? The Ingredients of Instability

To initiate KHI, three core ingredients are required:

- A velocity shear across the interface,
- A density contrast between the two layers (though not strictly necessary, it significantly influences behaviour), and

- A finite perturbation, such as a wave or ripple, to trigger growth.

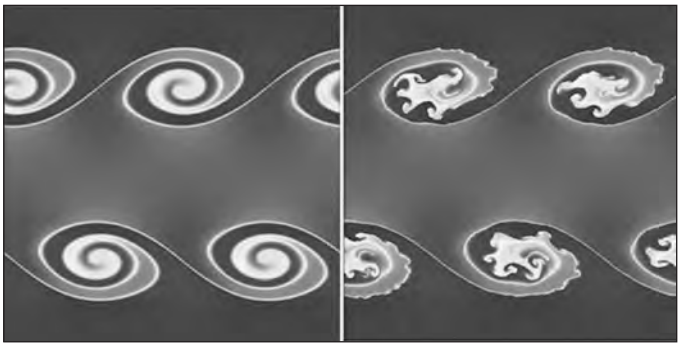
However, other physical factors can complicate or suppress the instability. Gravitational stratification, surface tension, viscosity, and, in the case of plasmas, magnetic fields can either stabilize or modify the development of KHI. These influences add layers of richness and complexity, particularly in geophysical and astrophysical contexts.

Simulating Shear: Modern Tools and Insights

With advances in computational fluid dynamics (CFD) and magnetohydrodynamics (MHD), researchers have been able to simulate the full evolution of KHI in unprecedented detail. These high-resolution simulations have revealed secondary instabilities, vortex pairing, and energy cascades — mechanisms vital to understanding atmospheric dynamics, ocean mixing, and even the behaviour of galactic plasmas.

Seeing KHI in Nature and the Lab

Visually, KHI often leaves behind a distinctive signature: periodic, wave-like structures that resemble



ocean surf curling over itself, typically referred to as Kelvin–Helmholtz billows. These have been observed in a range of natural and laboratory settings:

- In Earth's atmosphere, as dramatic wave-shaped cloud bands, often occurring during jet stream interactions or temperature inversions.
- In astrophysical plasmas, particularly at the boundaries of coronal mass ejections, planetary magnetospheres, and interstellar medium layers.
- In experimental setups, such as water tanks, wind tunnels, and plasma confinement devices, where researchers replicate shear instabilities under controlled conditions.

Eyes in the Sky: Satellites and Space Probes

Thanks to modern satellite imaging and space-based observatories like Hubble, SOHO, and the Parker Solar Probe, scientists have captured high-resolution images of KHI patterns across scales ranging from kilometres in Earth's atmosphere to thousands of kilometres in space.

From Clouds to Cosmos: Why KHI Matters

KHI is not just a theoretical construct; it appears throughout nature and technology. In the atmosphere, it forms the striking "wave clouds" seen during strong wind shear events. In the ocean, it enhances mixing between stratified water layers, influencing nutrient transport and marine circulation. In space, it governs interactions between the solar wind and planetary magnetospheres, affecting space weather and satellite operations. KHI is also crucial in astrophysical plasmas, such as the boundaries of solar flares and galactic jets.

KH instability rendered visible by clouds, known as fluctus, over Mount Duval in Australia.

Practical Impacts: Instability in Engineering and Science

Understanding KHI has practical value:

- In meteorology, it improves forecasting of turbulence and cloud evolution.
- In aerospace engineering, it informs the design of vehicles exposed to shear flows.
- In astrophysics and fusion research, it helps

predict plasma behaviour under extreme conditions.

At its core, KHI reveals how complex, dynamic structures can emerge from simple shear — a vivid reminder that instability is not disorder, but often the first step toward structure and transformation.

The Hidden Forces Behind Everyday Chaos

In the grand theatre of nature, instabilities like the Kelvin–Helmholtz instability often begin with subtle ripples — barely noticeable yet profoundly transformative. What may seem like minor disruptions at fluid interfaces actually govern weather patterns, ocean mixing, and plasma behaviour in space. KHI is a reminder that many seemingly insignificant processes underpin major real-world systems. Similar phenomena — like Rayleigh–Bénard convection or the Coriolis effect — quietly shape our environment and technology. Understanding these elegant instabilities doesn't just satisfy curiosity; it deepens our grasp of the hidden order behind the everyday chaos of the natural world.

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- Academic oup.com

Diya Shetty, 2D

Micrometeorites

We all have heard about meteoroids, but what exactly is micrometeorites?

Well micrometeorites are are very tiny particles present in space , often smaller than grain of sand. They travel at the speed of 10 kilometres per second.They pass through the earth's atmosphere and eventually reach us.

Origin and characteristics

Micrometeorites are usually originated from asteroids , comets. They are mostly the fragments of larger bodies present in space. These particles are very old , over 4.5 to 5 billion years.

They are made up of similar components of asteroids like iron , nickel , silicate ,sulphites, carbon and have a glass like structure. It is really fascinating that earth receives 5000-300000 tons of cosmic dust per year.

Where to find them?

1. A very common place like rooftops

Micrometeorites fall all over the earth and even on the rooftops, you can go to the roof and use a magnet to collect the metallic particles.

When examined under microscope, the composition tells us that it is micrometeorites.

2. Antarctica:

This is where the scientists find the most "pristine micrometeorites". Cold and dry conditions preserve them . The samples are taken from the snow for examination.

Threats to satellite

It travels at a speed faster than sound(speed of sound is 0.343 km per second) . Despite being so small , they can pack a punch of a hand grenade. This is the serious concern for satellites as they get damaged by these particles.

The satellites are made using a special material that can avoid the damage of these expensive panels.

NASA uses equations to calculate the penetrating power by using critical mass of it. The mass of the micrometeorites can range from ten power negative six to ten power negative three "grams".

There are two types of surfaces:

For single surface, critical mass is calculated by

using thickness, impact velocity, material etc. For double surfaces, sheet thickness and gap between the two surfaces is used.

Calculations like these help to prepare space crafts that takes no damage from micrometeorites. Even that tiny speck of material can cause an space craft to explode. Even the space suit is designed to avoid damages from micrometeorites

Importance of micrometeorites

These micrometeorites can be used to study more about space as they are the primitive remnants of the solar system. This also give the clues of the building blocks of the planet.

This has also given clues of origin of life on earth.

Despite the fact that this is just a speck or a flake of material, the amount of impact it has is colossal.

S S Sai Anushka, 1H

Physics Myth Busting

Our world is filled with beautiful and mind-blowing natural phenomena. Early humans described these so called "natural phenomena" as the work of Gods and Mythical beings. But now, in the 21st century we are able to describe these natural phenomena with appropriate reasons and justifications which we now call it as "Science". From describing the birth of the universe to generating nuclear energy and inventing bleeding-edge technology, we, humans have come a long way. It is also natural that, despite there being advancements in Science and understanding of nature, a few myths and misconceptions still linger around. This articles will explore some of the common myths and misconceptions and their actual explanations in the most unique and interesting branch of science, Physics.

Myth 1

Mass and weight of an object mean the same.

This is a misconception that plagues many people. Mass is the amount of matter present in a substance, where as weight refers to the gravitational force of the earth acting on that mass. When you check the reading of a weighing scale, it displays the result in 'kg-wt' or Newton. So when you tell your weight to someone, it means that you are actually telling your mass. Even the weighing scale will display your mass, not weight.

Myth 2

Heavier objects fall faster than lighter objects.

This is again, another misconception. Objects falling through the air execute free fall motion and hence fall under the influence of gravity. Any object, irrespective of whether it is light or heavy, falls with the same acceleration. Even Galileo proved this when he dropped two objects from the tower of Pisa. It is also important to take into account the air resistance which only depends of the area of the object. The force generally is negligible, but for lighter objects, this force becomes equal to its weight. So it does make a big difference. This was confirmed by the famous hammer and feather drop experiment on the moon.

Myth 3

Electrons revolve around the nucleus like planets revolve around the Earth.

Whenever someone talks about the smallest particle of nature , that is the atom , we get a picture of a central nucleus and small particles called electrons revolving around it in circular orbits. This however is not true. Although Bohr had explained in his model of atom that electrons revolve around the nucleus in fixed orbits, it violated the Heisenberg's Uncertainty Principle. According to this Principle, "the position and momentum of a micro particle travelling at very large speeds cannot be determined at a 100% accuracy". So the positions of electrons in

the atom cannot be determined at a 100% certainty. It was also proved by Young's double slit experiment, where Thomas Young saw a diffraction pattern , showing that electrons had wave nature.

Myth 4

Explosions are not dangerous if they are observed from a distance.

This myth has especially led to the death of many people. When an explosion occurs, energy is radiated in the form heat, light and sound. Many people think that they will be safe if they are not in the blast radius of the explosion. But this is not true. Energy is also released in the from of shock-waves. An explosion not only releases massive amounts of energy, but also creates a disturbance in the surrounding air which travels faster than the speed of sound and is characterized by an abrupt and significant change in pressure. This shock-wave can shatter windows, rupture internal organs and eardrums , and if they have sufficient energy, it can kill all living beings in its path. Hiroshima and Nagaski are just examples of not only the dangers of nuclear weapons but also the dangers of the after effects of the explosion especially the shock-wave. So remember, even if you the survive the blast of an explosion, you still are in the danger of being hit by the shock-wave.

Myth 5

Astronauts can speak to each other in space.

Many people think that astronauts can speak to each other in space , just like they do on earth. But here's the problem: space is vacuum. Sound needs a medium of propagation. These waves travel by compressing and expanding the medium they move through. Space as said, is vacuum and sound waves cannot travel through vacuum. Thus, astronauts can never talk to each other in space, unless they have a communication device or on a planet with an atmosphere. Another interesting point to note is that a wave does travel through vacuum , but for there to be sound , there has to be vibrations to cause the disturbance. But vacuum is empty space, so vibrations cannot be produced.

Myth 6

Lightning never strikes the same place twice.

This statement is used as an idiom to say that bad things don't happen twice. This may be true metaphorically , but physically this is false. Lightning strikes are caused due to the huge electrostatic discharge from the clouds. Usually tall objects like trees or light poles are likely to get struck by lightning the most. This is because the discharge tries to find the shortest distance from the point of origin. In fact the Empire state building gets struck about a 100 times per year. Although lighting may not strike the same place twice, it doesn't mean it won't. There are chances that the discharge could happen at same place again. So it is suggested to be very careful during thunder-storms or lighting storms.

Well, these were some common myths of physics that many people believe despite having technological and scientific advancements. The main purpose of this article was to make people aware of the actual scientific and logical reasons behind many of the common day-to-day natural phenomena. People should blindly believe in such myths and try to explore the actual reasons behind the occurrence of natural phenomena. There is always a reason for these phenomena to happen. Just remember cause and effect is a very tricky thing and when it comes to natural phenomena, it can even be lethal.

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Vijay Rishabh S, 1I

Where Do They Go? The Bermuda Triangle Explained

Thousands of ships cross the Atlantic safely each year. But in one infamous stretch, near Bermuda, Florida, and Puerto Rico, countless vessels and aircraft have vanished, defying weather data, radar, and reason. What makes this zone so different? Science has a few theories.

In 1950, a journalist named Edward Van Winkle Jones wrote an article for the Miami Herald about ships mysteriously disappearing in the area. This was one of the first times the idea of "danger zone" was publicly discussed.

In 1964, author Vincent Gaddis coined the term "Bermuda Triangle".

The Bermuda Triangle, written by Charles Berlitz in 1974 became massively popularized worldwide engaging people all around the world to find an answer to the strange tragedies that took place there.

This area is packed with famous incidents that keep the mystery alive. Out of the many, the most legendary incident that took place was the tragic story of Flight 19(1945). It was December 5, 1945 when Five US Navy TBM Avenger Torpedo bombers took off from Fort Lauderdale, Florida, on a routine training mission. In the duration of the flight the compasses malfunctioned, pilots got disoriented, and radio transmissions suggested confusion over where they were. Eventually, all contact was lost. 14 airmen vanished without a trace. What is more eerie and disturbing was the fact that the rescue plane sent to find them also disappeared, with 13 crew on board. Despite this tragedy being one of the largest air-sea searches in history, no wreckage was ever found...

Although the exact reasons are still unknown till date there are many possible scientific explanations given.

1. **Magnetic anomalies(largely debunked):** Early stories claimed the Bermuda Triangle is one of the few places on earth where magnetic compasses point to "true north" instead of "magnetic north". This could cause navigational errors if pilots did not account for the compass variation. But this theory was not entirely accepted because modern geophysics shows the difference is minor and constantly shifts across the globe, so it does not uniquely affect this region.
2. **Severe weather and rouge waves:** The area is severely prone to sudden tropical storms, hurricanes, and waterspouts. Powerful currents like the Gulf Stream can cause sudden changes in local weather and high waves. Oceanographers also note "Rouge Waves"- massive, unexpected waves over 30 meters(100 feet) high, enough to capsize large vessels. In recent decades, satellite data confirmed that such waves are real and more common than once thought.
3. **Methane hydrates(undersea gas eruptions):** Some scientists suggest large deposits of methane hydrates under the seafloor can suddenly erupt, lowering the water's density. This would reduce buoyancy and cause ships to sink almost instantly without warning or leaving debris. However, there's limited evidence this has actually happened.
4. **Instrumental failure and spatial disorientation:** Over water, with few visual references(especially in haze or storms), pilots can easily suffer spatial disorientation, misreading altitude and attitude. It combined with instrumental failure or misinterpretation; it can lead to fatal crashes into the ocean. This is a well-documented phenomenon in aviation psychology.
5. **Pure statistics: it's not unusually dangerous:** Insurance companies like Lloyd's of London and U.S Coast Guard say that the Bermuda Triangle doesn't have a significantly higher rate of disappearances than any other heavily traveled ocean area. Many researches conclude the "mystery" is due more to sensational reporting and confirmation bias – stories get exaggerated, and people ignore the countless ships and planes that pass safely every day.

Although these above stated reasons are scientific and believable there are many other reasons people have conveyed like the existence of Wormholes/ Time wraps that have the idea that the triangle is a gateway to another dimension or time, causing ships and planes to vanish from our world. But though this seems like a reason people would love to believe there is no physics to support this. But ! Here are some strange, lesser known, true facts about the Bermuda Triangle.

- Air traffic controllers have claimed that radar returns from aircraft flying through the Triangle have occasionally shown them flying upside down, even though the pilots reported flying normally.
- Over 1,000 lives are estimated to have been lost here in the past century.
- The Gulf Stream flows through it – like a river inside the ocean. This powerful current moves at speeds up to 2.5 meters per second(5.6 mph) and can quickly scatter wreckage, making search operations much harder.
- The U.S. Board on Geographic Names doesn't recognize the Bermuda Triangle. There are no warnings or special markings on maps – it's just treated as another part of the ocean

To sum it up, there is actually no proven supernatural force, magnetic portal, or special geological anomaly that makes it uniquely dangerous. Perhaps the Bermuda Triangle is simply that – a place. A place on our vast, mysterious planet that reminds us how much we still have to learn.

So next time you fly over these waters, will you trust science… or your gut?

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Divija C S, 2G

The Genius of Dr. Vikram Sarabhai

It was a seemingly ordinary day in November 1962 when a white Standard Herald drew up to the feet of a young engineering graduate, R. Aravamudan. Out of this car stepped a seemingly ordinary yet captivating persona in a white shirt and shorts. A casual observer would not have cared much for the chance meeting of these two people, but this was no ordinary rendezvous- it was the laying of the foundation-stone of INCOSPAR, an organization that would grow in repute in just under 20 years to become ISRO, globally hailed as the "Budget Space Program" of India.

The man in the white shorts, ordinary in appearance and yet with such brisk vigor, energy, intelligence and inimitable charm, was none other than Dr. Vikram Sarabhai, a genius student of the legendary C.V. Raman and the pioneer of the Indian space program.

Sarabhai was born to the great textile businessman, Ambalal Sarabhai, on 12th August 1919. Though he

Vikram Sarabhai with A.P.J. Abdul Kalam and others

was raised with a golden spoon in his mouth, he was raised well and taught how to keep his feet firmly on the ground, especially by his mother. It was in these precocious surroundings that he took his tripos in natural sciences, and later his PhD, from Cambridge University in 1940 and 1945 respectively.

Sarabhai began his journey to fame after becoming a student of Sir C V Raman, the only Indian Nobel Prize awardee within India. He studied cosmic rays under Raman before he left to pursue his own interests. Sarabhai's crowning achievement was the setting up of the Physical Research Laboratory (PRL) in Ahmedabad, a fantastic organization that would set up the great organization thar would become ISRO.

In the turbulence of 1960's India, Sarabhai gathered a team of plucky young enthusiasts to build his dream- the legendary A.P.J. Abdul Kalam, telemetry experts R. Aravamudan and Ramakrishna Rao, launch expert D. Easwaradas, and steward of the program, H.G.S Murthy. Leading a consortium of scientists around the globe, Sarabhai intended to train these youngsters in the launching of small sounding rockets to study the magnetic equator in a quaint little Malayali Christian village of Thumba, near Trivandrum. Little did the great man realize the future this little dream of his would produce, the genesis of a mighty organization.

In his own words

"There are some who question the relevance of space activity in a developing nation. To us, there is no ambiguity of purpose. We do not have the fantasy of competing with economically advanced nations in the explorations of the moon and the planets or manned space-flight. But we are convinced that if we are to play a meaningful role nationally, and in the comity of nations, we must be second to none in the application of advanced technologies to real-world problems of man and society, which we find in our own country."

It had barely been ten or so years- and his dream had but started- when the dreamer met his end. Sarabhai passed away during the night of 30th December, 1971, at Halcyon Castle, Trivandrum, of cardiac arrest. As his body was borne back to the flight due from Trivandrum to Ahmedabad, a huge crowd gathered at Trivandrum airport to see the great man off. In the words of R. Aravamudan "...The flight had been held up for Dr. Sarabhai in the past- but this time it was tragically different."

Thus ended the life of this exceedingly humble, charming man, yet an intellectual giant, who had

Schoolchildren look on in wonder as a sounding rocket is launched from Thumba (colorized)]

the courage to dream while others quaked in fear of nuclear war. This very man is the reason why our satellites orbit the earth, three missions have gone to the moon, one to Mars on its first attempt, and how our men and women now stand on the brink of space travel. Generations of space scientists, within India and abroad, have been influenced by this one singular cotton kurta-clad man. And not just him- but tens of thousands of our own innocent schoolchildren, who today dream of bringing India closer to the stars, as Sarabhai himself envisioned.

Let us never forget the contributions of Dr. Vikram Sarabhai, for it was him that we stand today among the giants of the global space program, pushing the final frontier to space and beyond.

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Agastya Dhanraj, 2I

Relativity and Reality of Time Travelling

The concept of time-travelling has been thrown around a lot in sci-fi books, movies, kids' shows and more. But has it ever proven to be factual? Can we actually see the future and change the past? Well theoretically, yes, and believe it or not, you're doing that right now.

Time travelling has always and will always be a very fascinating topic to everyone curious about time. The most curious person out of us all was Albert Einstein, who proposed two ground breaking ideas now known as "The Special Theory of Relativity" and "General Theory of Relativity".

Focusing on the time aspect of these theories, special relativity tells us that when a body moves close to the speed of light, time slows down for it relative to an observer, whereas general relativity talks about how time slows down near huge celestial bodies due to their mass and curvature of space time.

So talking about this casually, we can already tell that time can differ for different people, based on how fast they're travelling and where they are. Here are some examples to better understand the theories.

Let's take a very popular thought experiment, the twin paradox, to explain special relativity better.

Imagine 2 twins and one of them travels the cosmos at the speed of light, whereas the other one has to stay back on Earth. Once the twins meet again, the twin that went to space would be younger than the one that stayed back on Earth. This is special relativity.

Another way of bending time is finding a way to live near a black hole.

A black hole is a celestial body with an extremely large amount of mass that bends the fabric of spacetime so much that not even light can escape its gravitational pull. Space-time bending means bending of time due to gravity.

This concept is beautifully illustrated in the movie "Interstellar" (highly recommend watching), where the protagonist explores planets orbiting around a black hole in search of life. When they reached one of the planets, 1 second on that planet was equivalent to 1 day on Earth. So doing the maths, 1hour on that planet would be 7years on Earth. This is because of the extreme gravitational bending of black holes that makes time slower on the planets revolving around it. This is general relativity.

Therefore, travelling to the future is very much possible if you can make a device that's able to fly at the speed of light or take you near a black hole without being sucked in. However, there hasn't been a way to travel back in time and according to Stephan Hawking, it's impossible. It breaks countless laws of logic and physics to be proven mathematically and practically, but theoretically, concepts like wormholes, closed timelike curves, and more still exist.

So until that happens, let's enjoy our time on Earth as we time travel to the future at an impressive rate of 1 second per second.

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Chinmayee Moodi, 1H

The Physics of Watchmaking: Bibliography needs to be adjusted

At first glance, a mechanical watch might seem like a miniature marvel, ticking quietly on the wrist. But beneath its polished exterior lies an incredible blend of art and science, precision and philosophy. Among the most intricate innovations in this world is the tourbillon—a rotating mechanism first developed in 1795 by the legendary watchmaker Abraham-Louis Breguet. The word "tourbillon" means "whirlwind" in French, and that's exactly what it does. It houses the escapement and balance wheel in a rotating cage that spins once every 60 seconds. Why? To fight against gravity. In early pocket watches, which often rested vertically in the pocket for long periods, gravity would subtly distort the timing. The tourbillon was Breguet's brilliant answer to that challenge.

The tourbillon works by continuously rotating the escapement and balance wheel, the parts of the watch most affected by gravity. As it turns, it averages out timing errors that result from the pull of gravity in any single direction. This small mechanical ballet is a brilliant application of physics—combining harmonic oscillation, angular momentum, and rotational dynamics in a space smaller than a coin. Creating a tourbillon requires not only extraordinary precision but also a deep understanding of force distribution, friction reduction, and energy transfer. Despite modern watches being less dependent on it for accuracy, the tourbillon remains a favorite of high-end watchmakers because it represents a unique mastery of both science and craft.

Today, the tourbillon isn't just about precision—it's about legacy. In an age where quartz and smartwatches dominate, the tourbillon is a reminder of humanity's quest to understand and perfect even the smallest machines. It's a symbol of how physical laws, when embraced creatively, can lead to innovations that are both functional and beautiful. Looking into a tourbillon through a transparent watch dial is like watching a miniature universe in motion—a poetic reminder that time, in all its complexity, is something we continue to shape with knowledge and imagination.

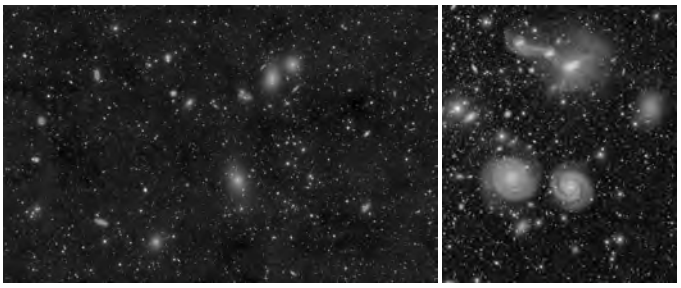
Koustubh Puranik, 1B

Grand view of the cosmos The Vera Rubin Observatory

Since the dawn of mankind, we have been interested in the night sky. Astronomers throughout history have observed the movement of the stars and have tried to find our place in the cosmos. The invention of the telescope marked a significant turning point in our understanding of celestial bodies. It is what helped shift our model of the solar system from a geocentric model to a heliocentric model. From the simple telescopes of the renaissance era to the Hubble and James Webb Space Telescope, we have gained a vast understanding of the universe. To continue this pursuit of understanding our home that we call as the universe, The Vera Rubin Observatory has been built to give us an unparalleled glimpse of the night sky.

Initially proposed in 2001 as the Large Synoptic Survey Telescope, it was later renamed after the late astronomer Vera C Rubin, whose work was instrumental in the development in the theory of dark matter. Construction officially began in 2014, in Chile. The Observatory became fully operational in June, 2025 with the first images being released on 23rd June 2025. The Vera Rubin Observatory aims to image the entire southern night sky every 3 nights, for the next 10 years. The main scientific goals of the observatory are to gain a better understanding of dark

matter and dark energy, map out the solar system and milky way, and find objects of interest. While previous telescopes have helped us, to achieve these goals, a telescope with the sheer scale of the Vera Rubin observatory was needed. It has been estimated that nearly 60 Petabytes of data will be collected from the decade long operational period. For comparison, that is more than 1500 times Amazon's entire database.



Previous surveys of the night sky, such as the Sloan Digital Sky Survey have been a blessing for astronomers, as they have catalogued thousands of objects in the night sky for them to analyse. However, even these impressive surveys will pale in comparison to the Vera Rubin Observatory, as due to its extremely high resolution. With the help of the world's largest digital camera, images can be made with such a high resolution that the entire image wouldn't fit on the screen of an average PC monitor. Along with this, its ability to image the night sky in 3 days lets it detect asteroids moving in the solar system by comparing images of previous nights. This is crucial in detecting NEOs (Near Earth Objects) which could potentially pose a threat to our planet. In just its first few images, the Vera Rubin Observatory has detected thousands of asteroids. It

also allows for the telescope to notice fluctuations in the brightness of stars, which could be a potential signal for a supernova. Thereby, the whole astronomic community can be alerted ahead of time of the nova, allowing for other telescopes as well to observe these grand events.

In terms of its search for dark matter, the telescopes large field of view will play a key role. Dark matter shapes how galaxies are attracted to each other. They generally rend to form filament like structures, leaving large voids in between these filaments. The size of these filaments and voids depend on what dark matter is. Hence, the Vera Rubin Observatory will be instrumental in finding dark matter, thereby continuing and honouring the work of the late Dr Rubin.

The Vera Rubin Observatory will pierce through the furthest and oldest parts of our universe, catalogue millions of objects in the night sky, discover brand new stars, galaxies and black holes and push us many steps closer to discovering the true nature of dark matter. A new age in astronomy has just begun.

Abhinav. R, 1G

Why the Night Isn't Ablaze — The Wonder of Olbers' Paradox

Late at night, when the world quiets down and the sky stretches endlessly above, have you ever paused and wondered:

"Why is the sky so dark?"

Not just a poetic question — but a scientific one.

If the universe is filled with stars in every direction, shouldn't the entire night sky shine like the day?

That's the heart of a cosmic mystery known as Olbers' Paradox, named after Heinrich Wilhelm Olbers, a German astronomer who popularized the question in the 19th century. His inquiry was simple yet profound — and it continues to fascinate astronomers even today.

A Sky Full of Light?

Let's imagine a universe that never ends — infinite in space, time, and stars. If you could travel in any direction far enough, you'd always end up pointing at a star. So logically, the sky should be blazing with light at all times. No dark patches, no black night — just a constant glow. And yet, when we step outside after sunset, what greets us?

A calm, mostly dark sky, with scattered dots of light. A canvas of beauty, yes - but not one that's fully lit up.

This contradiction is exactly what Olbers' Paradox tries to explain.

Olbers' Idea (and Why It Didn't Work)

In 1823, Olbers tried to explain the darkness. He thought that maybe interstellar dust and gas were blocking the light from distant stars. It's a logical guess — like clouds dimming sunlight.

But here's the catch: over time, that dust would absorb energy and heat up, eventually re-radiating light just like the stars themselves. In a truly infinite universe, the darkness would still be overwhelmed.

So the mystery remained.

What Modern Astronomy Reveals

Today, we have better tools — telescopes, satellites, and equations — and they help us understand why the night isn't ablaze:

1. **The universe had a beginning :** It all started about 13.8 billion years ago with the Big Bang. So, we can only see stars whose light has had time to reach us. Anything beyond that limit is invisible — for now.
2. **The universe is expanding :** As space stretches, light waves stretch too — a process called redshift. That means light from extremely distant galaxies is no longer visible to our eyes.
3. **Stars are scattered, not packed :** Space is mostly empty. Even though there are trillions of stars, they're separated by vast distances. Our night sky shows only a tiny glimpse of them.

Darkness with a Message

So the darkness isn't an accident. It's a clue — telling us that the universe is still growing, still unfolding. It's evidence that time had a beginning, and that we're witnessing only a small slice of the cosmos.

And here's something fascinating: the universe is glowing - just not in visible light. The Cosmic Microwave Background Radiation, a faint afterglow of the Big Bang, is everywhere. It's the oldest light we can detect, whispering stories from when the universe was only 380,000 years old.

The Power of Simple Questions

Olbers' Paradox reminds us that even the simplest questions can lead to the biggest truths.

"Why is the night dark?" isn't just a child's curiosity — it's a gateway into cosmology, physics, and the history of time itself.

It's a reminder that science begins with wonder — and that sometimes, looking up at the stars is all it takes to start asking the right questions.

Mahat V, 2J

When Recycling Meets Pharmacy: The New Face of Green Chemistry

In a remarkable scientific leap, researchers at the University of Edinburgh have demonstrated that genetically engineered bacteria can convert plastic waste into paracetamol—the globally used painkiller. This groundbreaking development addresses two major global concerns simultaneously: the overproduction of plastic waste and the need for cleaner, more sustainable drug manufacturing processes. At the centre of this breakthrough is polyethylene terephthalate (PET), the sturdy, transparent plastic commonly used in beverage bottles and food containers. PET is non-biodegradable and contributes significantly to the global plastic crisis, lingering in landfills and oceans for centuries. Turning this waste into medicine not only creates value from refuse but also significantly cuts down on the environmental footprint of pharmaceutical production.

The process hinges on a clever reimagining of metabolic engineering. Scientists began by chemically breaking down PET into terephthalic acid, a substance that serves as a suitable carbon source for engineered Escherichia coli (E. coli) bacteria. These bacteria were genetically modified to carry genes that enabled them to convert terephthalic acid into para-aminobenzoic acid (PABA)—a molecule already naturally involved in folate synthesis in bacterial cells. With the introduction of additional genes sourced from fungi and other soil bacteria, the E. coli was further engineered to carry out an internal chemical reaction, converting PABA into paracetamol (acetaminophen). One of the most remarkable elements of this transformation is the Lossen rearrangement—a reaction that typically requires harsh lab conditions, but in this case, was triggered inside living cells under mild conditions with the help of phosphate ions.

What makes this innovation particularly significant is its eco-friendliness and efficiency. Traditional pharmaceutical synthesis methods for paracetamol rely heavily on fossil fuels and involve multi-step chemical reactions, often producing toxic by-products and consuming large amounts of energy. In contrast, the bacterial method described by the researchers yields up to 92% pure paracetamol within just 24 hours, without the need for toxic chemicals or high temperatures. Moreover, this process effectively upcycles plastic waste—diverting it from oceans and landfills and turning it into a life-saving medicine. This makes it a promising step toward the realization of a circular economy, where waste materials are repurposed into valuable resources rather than discarded.

Though the research is still at a proof-of-concept stage, its implications are profound. The next steps will involve scaling the process for industrial application, ensuring that the paracetamol produced meets pharmaceutical-grade purity standards, and optimizing bacterial efficiency for large-scale drug synthesis. There are also regulatory and safety hurdles to navigate before such biologically derived pharmaceuticals can enter mainstream medicine. However, the success of this project sets a powerful precedent. If scaled effectively, this could usher in a new generation of “green drugs” produced not in chemical plants but by living organisms—reducing the carbon footprint of medicine production and transforming how the pharmaceutical industry operates.

This breakthrough also sparks a broader conversation about the role of synthetic biology in environmental sustainability. It exemplifies how interdisciplinary science can offer elegant solutions to some of the world's most entrenched problems. By tapping into the power of microorganisms, scientists are showing that waste does not have to be the end of a product’s life cycle—it can be the

beginning of something entirely new. As research in this area advances, we may soon see an era where plastic pollution becomes a valuable resource, powering not just medication, but perhaps fuels, textiles, and other essential materials. For now, this bacteria-powered transformation of trash into treatment stands as a powerful testament to the potential of green chemistry and bioengineering—a future where healing the planet and healing people go hand in hand.

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Siri Narendra, 1D

How to glue sticks two things together and why it works ?

Glue, the common stationary item that everybody uses from students trying stick pictures to their last minute projects that were due yesterday and in the making of aeroplanes and rockets. A truly interesting tool that just makes two things just miraculously stick together.

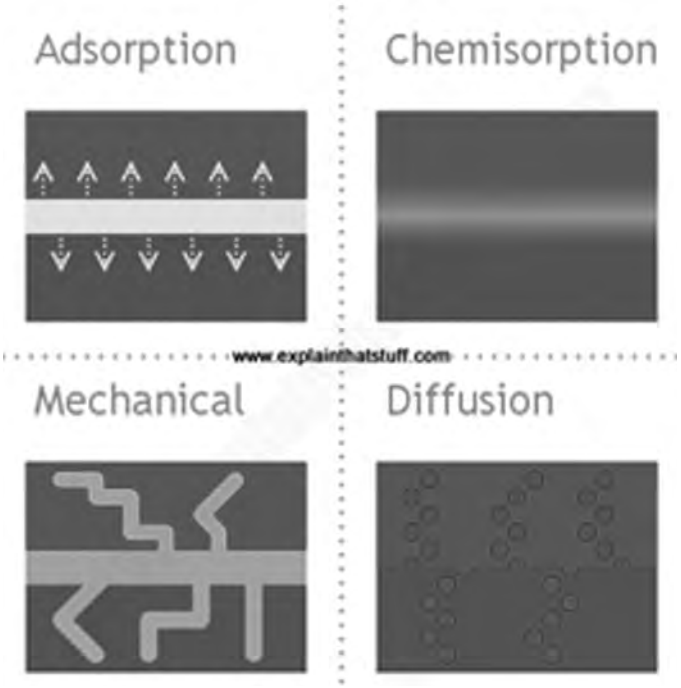
How does it work? Where does it come from and how it is made? Here's the science behind our everyday neighbourhood chemical, glue!

First of all, let's get everyone on the same page and use the more formal and scientific term for glue that is, adhesive which as Wikipedia defines it would be : A non-metallic substance applied to one or both surfaces of two separate items that binds them together and resists their separation, in normal terms that would be holds two things together.

Our ancestors mostly used natural glues such as mucilage(obtained from plants), bird lime or even molasses. Nowadays we use synthetic glues such as poly vinyl acetate in glue sticks, cyanoacrylate as a super glue with other glues such as phenol formaldehyde and ethylene vinyl acetate also being very widely used.

Wait?, So how does glue stick things again

Enough with the dillydallying and let's get to the crux



of the problem. There are two main forces that come into play when talking about glue (which u may have heard of) Adhesive and Cohesive forces.

As you may know cohesive forces are the forces between a substance's own molecules while cohesive forces are those that act between two molecules of the same substance. They are caused due to a various number of factors including, majorly

hydrogen bonds and Vander Waals force (at least in water that is).

Adhesive forces on the other hand are a consequence of many different factors but most suprisingly we don't exactly know why exactly two things stick together, but there a few theories that have a lot of credibility.

The first major adhesive model is the Adsorption. Few scientists think that when an adhesive is applied to a surface it first wets* it and then many small electrostatic forces called Vander Waals forces develop over the surfaces like many magnets keeping the two surfaces attached together.

There is also the case of Chemisorption a unique case where the Adhesive chemically bonds with the respective surface. This type of Adhesive is quite commonly used in with a certain of plastics.

Mechanical locking is another interesting theory which states that, since most surface have tiny,tiny bump, Synclines and anticlines, crooks so small that you can't even see them. The main point is that the Adhesive flows into these crooks and cracks and when the surfaces are being pulled apart the keeps the surfaces in place as it is been locked into the surface of the substance. Interesting is it not!?

Then comes diffusion, supposedly the adhesive diffuses into the substance it's wet over and vice versa, resulting in the two substances sticking to each other.

What makes a strong glue?

With modern technology we are able to produce synthetic glues that are so much stronger than your average hide glue of flour glue. But what exactly make a usable glue?

Foe a glue to be able to do its job properly it has to a strong force of Adhesion and strong cohesive forces that can hold the glue together when trying to peel away the two stuck layers.

For example : 1) Water can stick to a lot of substances like when u come out the bath water wil stick to your skin. But relatively it's cohesive forces are very weak unable withstand a lot of force.

2) Lets take Iron as another example. The metal bonds in Iron are in a crystal lattice structure causing to be hard and be able withstand quite a lot of force, there fore it has a huge amount of cohesive force. Usually Iron doesn't stick to substances as far as I know so it lacks a strong adhesive pull to be able to make it a glue

3) Now let's think of using some Jam as glue to stick two pieces of bread that I was going to have for breakfast, now before you if say you shouldn't play with your food think about this, if you spread a slice of jam on one side them put the bread together and peel it off again then the other side would have some Jam on it (classic example of adhesive force). But if its cohesive forces were a bit stronger allowing to withstand being pulled apart it would make for a good DIY adhesive.

Why doesn't glue stick to the tube?

Glues are designed to work after being released form the tube. Good examples of this is solvent glues who main adhesives are dissolved in a solvent which is volatile enough to evaporate after being squeezed out from the tube. This one of the reasons why glues smell after use, but doesn't after it hardens the smell comes from the solvent that evaporates away. (This type is quite important in plastic modelling using polystyrene and acetone solvent). Synthetic Epoxy resins gon the other hand need to be mixed before use so as to store it safely before use.

Now that you know how glue works every time you stick two things together using glue you remember that your just not sticking two things together just like that you finally understand some of the processes that actually go on under the vision of the human eye.

Ananth NG, 1B

Measure your Smile

A smile is often considered the prettiest ornament one can wear. It conveys warmth, confidence, and joy. Behind every beautiful smile, however, lies an intricate structure of bones, muscles, and most importantly, teeth. When we smile, we instinctively open our mouths, revealing teeth held in place by the jawbone. Interestingly, the jaw is the only double-hinged bone in the human body, allowing for the movement essential to speaking, chewing, and expressing emotions. Beyond the biological and emotional aspects of a smile, there lies an unexpected but meaningful connection to mathematics. While dentistry is generally seen as a branch of medical science, math plays a vital role in the design, function, and treatment of the mouth. From the angles used in brushing to the geometry involved in orthodontics, mathematics is deeply embedded in dental practice.

The human jaw is made up of two main parts: the upper jaw, or maxilla, and the lower jaw, or mandible. Both hold teeth through small sockets called dental alveoli. The shape of the dental arch—formed by the arrangement of teeth—can be mathematically described as a parabola. This parabolic shape is not only visually appealing but also functionally effective. Due to its symmetry, the forces from chewing are evenly distributed, helping maintain balance in the jaw and keeping the teeth healthy.

This geometric understanding isn't just theoretical—it's actively used in real-world dentistry, especially in orthodontics. This branch, which focuses on correcting misaligned teeth and jaws, depends on mathematical principles to predict tooth movement and design effective treatments. Braces are adjusted to apply specific forces at calculated angles. These forces, measured in Newtons, gradually shift teeth into place. Orthodontists use knowledge of vectors, angles, and force to ensure precise alignment. Even torque, or the twisting force applied to teeth, relies on mathematical calculation.

A more everyday example of math in dental care is brushing technique. Dentists recommend holding the toothbrush at a 45-degree angle where the teeth meet the gums. This angle isn't random—it's chosen to clean both the teeth and gumline efficiently. Even the design of dental instruments like scalers and mirrors involves carefully measured angles and proportions, ensuring precision during treatment. The dental chair, too, is designed using mathematical considerations. Its angles are made for patient comfort while allowing the dentist optimal access.

In prosthetic dentistry, where crowns, bridges, and dentures are designed, accuracy is everything. These replacements must be shaped and measured precisely to fit the patient's mouth. Mathematical calculations help determine the exact dimensions and proportions. Aesthetic dentistry also applies the Golden Ratio—about 1.618—to create pleasing tooth proportions, especially in the front teeth. This ratio, long associated with beauty and balance, helps design smiles that look natural and harmonious. Similarly, the Fibonacci sequence, closely related to the Golden Ratio, can be observed in natural tooth arrangements and used to guide cosmetic dental design.

Mathematics also plays a major role in diagnostics and treatment planning. In periodontology, which deals with the supporting structures of teeth, gum pocket depths are measured in millimeters to monitor gum health. These readings help detect disease early and track progress over time. Dosages for medications like anesthetics and antibiotics are calculated using the patient's weight and age, requiring careful math to ensure safety and effectiveness.

With the rise of digital dentistry, math has become even more central. Imaging tools like X-rays, CBCT scans, and digital impressions rely on mathematical algorithms to create accurate 3D models of a patient's mouth. These models help plan surgeries, design implants, and guide orthodontic treatments. Artificial intelligence is also making its way into dentistry, using data and mathematical models to predict treatment outcomes, improve accuracy, and personalize care.

Beyond the clinic, math supports evidence-based practice in dentistry. Data from patient treatments are analyzed statistically to evaluate the effectiveness of procedures. This helps improve methods, reduce risks, and ensure patients receive the best possible

care. Clinics also use mathematical analysis to track performance and ensure quality improvement over time. Even for students learning math, dentistry offers fun, relatable connections. Counting teeth can be a math activity—adults usually have 32 teeth, while children have 20. Symmetry, angles, and proportions in a smile help make math more concrete and interesting. Realizing that even brushing teeth involves a 45-degree angle connects everyday habits with classroom concepts. These insights show that math isn't just about numbers on paper—it's part of daily routines and personal health.

In the end, the role of mathematics in dentistry goes beyond calculations and diagrams. It provides the foundation for precision, structure, and innovation. By applying mathematical concepts to clinical practice, dentistry improves patient care, enhances aesthetics, and advances research. This relationship between math and dentistry shows how two very different fields work together to create something truly meaningful—a healthy, confident smile.

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THIS ARTICLE IS BASED ON MY PRESENTATION AT THE NATIONAL-LEVEL COMPETITION HELD BY THE ASSOCIATION OF MATHEMATICS TEACHERS OF INDIA (AMTI), WHERE I EXPLORED THE LINK BETWEEN MATH AND DENTISTRY AND HAS BEEN PUBLISHED INA GUJARATI MAGAZINE 2024.

Spoorthi M Prasad, 1E

Addiction on a Molecular Level

Addiction to alcohol, tobacco, and illegal drugs represents a substantial burden to societies worldwide. In terms of health-related outcomes, addiction results in enormous direct medical costs, premature mortality (tobacco alone may be responsible for 450,000 deaths yearly in the United States), and disability. In terms of broader social costs, addiction results in crime, negative impacts on families, derailed lives, and personal suffering. The major categories of drugs most likely to produce addiction are psychostimulants (including cocaine and amphetamines), opiates, ethanol, nicotine, marijuana, and phencyclidine-like drugs. Understanding the molecular and cellular actions of addictive drugs is obligatory if we are to better understand pathophysiology and develop potent pharmacotherapies to treat addiction.

Three terms related to drug abuse are used commonly: tolerance, dependence, and addiction. Tolerance represents a reduced effect upon repeated exposure to a drug at a constant dose, or the need for an increased dose to maintain the same effect. Dependence is defined as the need for continued exposure to a drug so as to avoid a withdrawal syndrome (physical and/ or psychological disturbances) when the drug is withdrawn. Dependence is considered a priori to result from adaptive changes that develop in body tissues in response to repeated drug exposure. The traditional distinction between physical and psychological dependence is somewhat artificial, since both are mediated by neural mechanisms, possibly even similar neural mechanisms, as will be seen below. Addiction is defined as the compulsive use of a drug despite adverse consequences.

Acutely, addictive drugs are both rewarding (i.e., interpreted by the brain as intrinsically positive) and reinforcing (i.e., behaviours associated with drug use tend to be repeated). With repeated use, however, addictive drugs produce molecular changes that, within a vulnerable brain, promote continued drug-taking behaviour in a manner that becomes increasingly difficult to control indicating the loss of control over the apparently voluntary acts of drug seeking and drug taking. Once it has taken hold, addiction tends to follow a chronic course with periods of abstinence (that may or may not follow

treatment), followed by relapse to active drug use. Even after extended periods of drug abstinence, the risk of relapse remains high.

The overall effect of each of the addictive drugs depends on the particular neurons and circuits that express their molecular targets, and the nature of those targets. Addictive drugs share the ability to activate mesocorticolimbic dopamine projectionsthat are critical substrates for both rewarding and reinforcing effects of natural stimuli. The powerful control over behaviour exerted by addictive drugs is thought to result from the brain's inability to distinguish between the activation of reward circuitry by drugs and natural activation of the same circuitry by useful behaviours (e.g., behaviours related to eating or reproduction). Any activity, whether related to drug taking or survival, that activates this circuitry tends to be repeated; however, activation of reward circuitry by addictive drugs can be much more reliable and powerful than activation triggered by natural reinforcers, facilitating repetitive drug use, and with it, the initiation of molecular mechanisms that may produce tolerance, dependence, sensitization and compulsive use.. Although the mesocorticolimbic dopamine system is a site of convergence for the rewarding effects of virtually all major classes of addictive drugs, these drugs act by very different mechanisms.

Molecular and cellular mechanisms of long lived drug effects

Diverse behaviours, symptoms, and signs of substance use disorders coexist clinically, but depending on the drug and on the stage of the disorder, these may involve multiple molecular mechanisms occurring in diverse neural circuits. Heuristically, the types of molecular mechanisms involved in the long-lived effects of addictive drugs may be divided into two major classes: homeostatic adaptations and associative learning.

Homeostatic adaptations

Homeostatic adaptations can be understood as compensatory responses of cells or circuits to excessive bombardment by a drug or to excessive drug-induced neurotransmitter stimulation (e.g., excessive dopamine stimulation). These adaptations tend to dampen drug effects, thus playing a critical role in tolerance and dependence.Although clinically significant, homeostatic mechanisms cannot account for the persistent tendency of addicted individuals to relapse, even years after any withdrawal symptoms have subsided

Associative Learning

Both humans and animals readily learn to self-administer addictive drugs; behaviours that require the specific recognition of drug-associated cues, and the performance of complex action sequences.Associative Learning Both humans and animals readily learn to self-administer addictive drugs; behaviours that require the specific recognition of drug-associated cues, and the performance of complex action sequences. In drug-addicted humans, late relapses appear to involve associative learning, as they often occur after encounters with people, places, or other cues previously associated with drug use.

Through investigation of intracellular messenger pathways, it will be possible to understand the biochemical and molecular mechanisms by which drugs of abuse induce changes in brain function that underlie addiction. Studies of the biochemical and molecular basis of drug addiction have several important clinical implications. A better understanding of the neurobiological mechanisms underlying the addictive actions of drugs of abuse and of the genetic factors that contribute to drug addiction is bound to lead to the development of pharmacological agents that prevent or reverse the actions of the drugs on specific target neurons. Such drugs could be used not only to treat physical abstinence syndromes, but also to reduce the craving for drugs of abuse. Their availability would represent a revolutionary step in our battle against drug addiction.

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Mridhula S Hegde, 2E

AI in Biology

Imagine a scientist in a lab, staring at a screen, not in a microscope. Instead of mixing chemicals, they are training a computer to predict how cancer cells will respond to a new drug. Welcome to the new biology lab, where Artificial Intelligence is as essential as a lab coat. Biology labs which were once dominated by lab technicians is now being replaced by AI.

The enablement of universal identity and data exchange has resulted in a connected and seamless world, and hence the possibilities of holistic healthcare. AI's predative capabilities has engulfed the field of biology and medicine. Let us look at few areas of biological research impacted by AI.

Accelerating Genomic Research

One of the most impactful contributions of AI in biology lies in genomics. With the advent of high-throughput sequencing technologies, biologists now generate vast amounts of genomic data. AI helps process and analyze this data at speeds and scales beyond human capability. Machine learning algorithms are used to identify gene mutations, predict disease risks, and even suggest personalized treatment strategies. Many AI tools have shown remarkable accuracy in DNA sequencing and protein structure prediction.

Protein Structure Prediction

A major milestone in computational biology was achieved when an AI system called AlphaFold solved the protein-folding problem-a scientific challenge that had persisted for decades. Proteins are essential to nearly every biological process, and their functions are determined by their three-dimensional structures. AI tools can predict these with unprecedented precision, which reduces the time and cost of protein analysis. This will bring vital change in developing markets with massive population. This breakthrough is expected to accelerate research in disease understanding, drug design and synthetic biology.

Drug Discovery and Development

Drug discovery is traditionally a lengthy and expensive process, often taking over a decade and costing billions. AI is helping shorten this timeline through predictive modeling and data mining. By analyzing massive datasets of molecular interactions, AI can identify potential drug candidates and predict their effects with impressive precision. AI algorithms are used to screen millions of chemical compounds and identifying new drugs. It also helps simulate how different drugs interact with biological targets, reducing the need for early-stage laboratory experiments. Many companies are already using AI to bring new drugs to market faster.

AI in Personalized Medicine

AI is playing a crucial role in the advancement of personalized medicine, which tailors' medicinal treatments to individual patients based on their genetic, environmental and lifestyle factors. By integrating data of patients from multiple sources-including genomics, electronic health records, and wearable devices-AI systems can recommend customized treatment plans. This leads to more effective interventions with fewer side effects, especially in complex conditions like cancer and neurological disorders. This reduces the risks of over-generalization of medicines and enhances overall patient care experience. We are already seeing Agentic AI virtual hospitals with minimal human intervention for diagnostics and patient care, opening a whole new possibility of immersive healthcare.

Ecology, Evolution & Environmental Biology

Beyond human health, AI is being used to understand broader biological systems. In ecology, machine learning models and AI powered drones help monitor species populations, detect illegal logging and endangered species, record biodiversity loss and forecast environmental changes. AI designed genetic circuits and organisms is enabling the possibilities to produce novel therapeutics, biofuels and other valuable compounds. This contributes

significantly for reduced carbon emissions and help create a greener world. In evolutionary biology, AI algorithms analyze genetic data to trace species' origins and evolutionary patterns.

The Road Ahead

The integration of Artificial Intelligence and biology is still in its early stages, but the progress is rapid and promising. As computational power grows, AI will continue to unlock new possibilities in biological research. Collaboration between biologists and data scientists will be key to harnessing AI's full potential and tackle complex challenges to help human health.

In conclusion, AI is not just a tool but a catalyst for biological discovery. This synergy between computational intelligence and biological complexity is helping humans understand life at a deeper level and paving the way for a more sustainable future.

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BIOPHOTONS

Introduction

Your brain is glowing as you read this paper. And here's how.

"Biophotons" are the secret.

Living organisms can emit light. This phenomenon is known as ultraweak photon emissions, or UPEs. It refers to the continuous, low-intensity light, or biophotons, produced by living tissues. Scientists think these emissions are by-products of biomolecular reactions that generate energy. The light's intensity is linked to the amount of energy the tissue uses. Interestingly, the brain is believed to emit more light than other tissues in the body. Biophotons range from 200 to 800 nanometres and come from various biological processes, including cellular metabolism. Essentially, every thought produces a light emission from the brain. This fascinating discovery dates back to the 1920s. Russian biologist Alexander Gurwitsch discovered that the growth of onion root cells was affected by nearby roots, even when barriers separated them. This was connected to the effect of biophotons and shows their role in biological communication.

How do biophotons work?

All matter emits photons because its temperature is above absolute zero. It radiates heat mostly as infrared light, which we cannot see with our eyes. Ultra-Photon Emission (UPE) is a more intense type of radiation found in the visible spectrum. UPE occurs during periods of heightened metabolic activity, particularly when oxidative stress arises and reactive oxygen species are generated. Living cells create energy through metabolism. This process generates oxygen molecules that contain excited electrons. When these electrons return to a lower energy state, they emit photons via radiative decay. These photons can affect adjacent cells by altering redox-sensitive signalling pathways. Their wavelength determines how the emitted photons affect biology. Shorter wavelengths may cause changes at the molecular level. In contrast, longer wavelengths are involved in cellular communication and regulation.

Neural cells consistently emit biophotons. The strength of these emissions is linked to factors like neural activity, brain energy use, electroencephalography readings, blood flow in the brain, and oxidative processes. Neural activity

influences the strength of biophotons by altering the membrane potential and letting calcium ions (Ca^{2+}) enter. This process triggers photon release during synaptic signalling. Changes in blood flow to the brain can affect biophoton emissions. This happens by affecting how oxygen and nutrients are delivered. This, in turn, influences metabolic activity and the reactions that produce photons. Oxidative processes, especially those involving reactive oxygen species (ROS), are important. They create excited molecular states that decay and release biophotons as a by-product. The release of biophotons from neural tissue is regulated by neuronal membrane depolarization and the entry of $Ca2+$ ions into the cells. This biophoton emission can be increased by membrane depolarization in neurons caused by higher concentrations of $K+$. It can be reduced by using tetrodotoxin or by lowering extracellular $Ca2+$.

How biophotons support mental tasks?

- **Light Signalling During Neural Activity :** Biophotons are believed to be released during synaptic activity. This happens especially when neurons are firing and communicating with each other. Researchers see increased neural activity in specific brain areas, like the visual cortex and prefrontal cortex, when we focus our attention or imagine things. Consequently, they have observed an increase in biophoton emissions during these processes.

- **Biophotons and Cognitive Synchrony:** Biophoton emissions may help neurons synchronize during tasks that need concentration. Focusing and visualizing rely on different parts of the brain, like memory, vision, and spatial processing. Some ideas suggest that photonic signalling might support this integration, either alongside or apart from electrical impulses.

- **A Measure of Brain Efficiency and Health :** While not always a reason for mental activity, the intensity of biophoton emissions reflects metabolic and oxidative activity in the brain. When a person is intensely focused or visualizing, metabolic activity goes up, leading to more biophoton release. This may act as a non-invasive indicator of cognitive load or mental engagement.

Possible Functions and Theories

Biophotons may do more than serve as byproducts of metabolism. They could function as a secondary signalling system, with microtubules acting as optical waveguides that carry light-based messages within the brain. This process might allow for fast communication that goes beyond electrical signals. Furthermore, the theory of Orchestrated Objective Reduction by Hameroff and Penrose argues that quantum coherence in microtubules is key to consciousness. In this light, biophotons might mirror or support these quantum states, offering new insights into the processes tied to awareness and thought.

Some scientists propose that biophotons facilitate internal feedback processes, serving as an "inner light" for visual imagination, with mitochondria or DNA acting as light sources and detectors in the brain. However, others view biophotons as byproducts of oxidative metabolism that reflect neural activity or stress, suggesting they are biological indicators for studying brain health rather than involved in signalling or cognition. The exact role of these emissions remains an open question in science.

Scientific Debate and Challenges

Interest in biophotons is increasing, but their function is still up for discussion. Their weak emissions need dark environments for detection, which makes human studies difficult. Some people see biophotons as simple noise from metabolic processes, while others think they might allow for fast brain communication beyond electrical signals. The biggest challenge is technology; current methods cannot track biophotons in real-time or study how they interact with neurons. Improvements in deep-tissue imaging and quantum modelling will be crucial for solving these problems.

Importance for Neuroscience & Consciousness

If proven, biophotons could change our understanding of brain function and consciousness. They might offer new diagnostic tools for stress and mental disorders. The blend of quantum biology, neuroscience, and photonics could lead to computing systems that imitate how the brain processes light. This would be a new frontier in brain science.

Conclusion

The human brain glows faintly while it thinks. This phenomenon is both mysterious and fascinating. Science has not yet determined whether biophotons are silent messengers or just metabolic signals, but their presence raises new questions about consciousness and how we think. Despite the uncertainty, one thing is clear: studying these subtle glimmers might eventually reveal the brain's deepest functions. In the quiet space of your mind, every thought, memory, and dream may be accompanied by a soft, invisible light show.

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Code Blue or Breakthrough? AI's Role in the Future of Medicine

"AI won't replace doctors – but doctors who use AI will replace those who don't"

- Dr Bertlalan Mesko, Medical Futurist

The Promise of AI in Healthcare

Artificial Intelligence (AI) is no longer a futuristic dream. It is transforming the world of medicine today. From analysing medical images with high precision to predicting disease risks based on genetics, AI has begun playing a critical role in saving lives and improving healthcare efficiency. Tools like IBM Watson and Google's DeepMind have demonstrated that AI can analyse thousands of data points in seconds—far beyond what the human brain can process. In diagnostics, for example, AI algorithms can detect breast cancer, lung nodules, and diabetic retinopathy with accuracy that matches or surpasses experienced doctors. Moreover, during the COVID-19 pandemic, AI was deployed to track outbreaks, model virus spread and even assist in vaccine development. Another major success has been drug discovery—AI helped researchers at MIT discover new antibiotics like Halicin, which proved effective against antibiotic-resistant bacteria. On the patient side, AI chatbots and virtual assistants now help schedule appointments, monitor chronic illnesses, and even offer mental health support. Clearly, AI is a powerful friend—when applied thoughtfully.

The Dangers and Ethical Dilemmas

Despite its potential, AI in healthcare is not without its dark side. One of the most significant challenges is the lack of transparency—many AI models operate as "black boxes," making decisions without a clear explanation. This raises ethical concerns, especially in cases involving life-and-death diagnoses. How can patients trust a decision if neither they nor the doctor fully understands how it was made? Then comes the issue of bias in data. If an AI is trained mostly on data from certain

populations—say, urban hospitals or people of one ethnicity—it may misdiagnose or mistreat those from underrepresented communities. For example, a study by Stanford found that some skin cancer detection algorithms performed poorly on darker skin tones simply because they were not trained on diverse images. There's also the risk of privacy breaches. AI systems rely on massive amounts of patient data, and if these systems are not secure, it could lead to leaks of sensitive health information. Lastly, excessive reliance on AI could cause medical professionals to lose critical thinking and diagnostic skills. Just like how overusing GPS might make us forget how to read a map, doctors might become too dependent on AI tools and neglect their own judgment and empathy.

Striking the Right Balance

Artificial Intelligence stands at a critical crossroads in medicine – poised between Code Blue and Breakthrough. On one side, it offers revolutionary possibilities: faster diagnosis, smarter treatments and expanded access to care. On the other hand, it raises urgent ethical alarms around privacy, bias and overdependence. Whether AI becomes an emergency to manage or a breakthrough to celebrate depends entirely on how we use it. We must ensure that innovation is guided by empathy, fairness and accountability. Most importantly, as young students stepping into the future of medicine, we should study its benefits and limitations, advocate for transparency, and never lose sight of the human side of medicine. After all, no matter how advanced technology becomes, compassion, ethics, and human touch will always remain at the heart of healing.

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Gene Editing – Redefining the Future of Medicine

Introduction

Imagine correcting genetic defects with accuracy of a molecular scalpel – gene editing makes this a reality. Genome editing, also known as genome engineering, is a revolutionary leap in modern science. It is a powerful area of research that is focused on modifying genes of living organisms to allow scientists to deepen their understanding of gene function and explore new ways to treat genetic or acquired diseases. Using technologies like CRISPR – Cas9, researchers can correct, introduce, or remove specific segments of DNA with remarkable precision that mimics the natural processes of DNA repair and transfer in organisms. According to the World health organisation, about 10 out of 1,000 people are impacted by single gene disorders (also called as monogenic disorders).

Break Through

The development of CRISPR-Cas9 in 2012 revolutionized genome editing. This technique, renowned for its efficiency and pinpoint accuracy,

has revolutionized the field and has opened doors to a wide range of applications. From medical treatments targeting hereditary diseases like sickle cell disease and certain cancers to agricultural innovations that enhance crop resilience, yield and culture a disease-free livestock to biotechnology that serves as a critical tool in developing new solutions to complex biological challenges. The current number of people who have been treated with the CRISPR – may be in hundreds but in the future could reach up to millions or even billions.

The growing adoption of advanced editing methods has led to the emergence of a new stream of job opportunities within the field of biochemistry. Researchers, genetic engineers, and bioinformaticians are now exploring genetic influences that shape the development and outcomes of both rare and common diseases. These insights are invaluable in personalizing healthcare, tailoring treatments to individual genetic profiles, and preventing diseases before they manifest.

Moreover, the evolution of DNA sequencing technology promises to make the cost of sequencing an individual's entire genome as affordable as other routine diagnostic tests. This democratization of genetic data holds tremendous potential—not only for medical research but also for enabling everyday people to understand their genetic predispositions. Recent milestones under the FDA approval of Casgevy, includes the therapy for sickle cell disease and vivo editing trials for rare liver and metabolic disorders.

Neuroscience and other Applications

Gene editing is increasingly being applied to combat neurological disorders such as Alzheimer's and Huntington's disease. It also holds promise in correcting genetic mutations linked to autism spectrum disorders, paving the way for highly personalized and targeted psychiatric care. Beyond medical applications, engineered microbes are being developed to detect environmental toxins, produce essential compounds like insulin, and even degrade plastic waste—offering innovative solutions to global challenges. Gene editing is also being explored as a tool to manage invasive species. While this has ecological benefits, it must be approached cautiously, as such interventions may disrupt delicate ecosystems and demand thorough modelling and oversight. In more futuristic fields, researchers are investigating gene editing as a means to slow aging, repair damaged cells and potentially extend the human lifespan.

Challenges

Gene editing presents a number of challenges despite its promise. Unintended consequences—such as off-target edits, immune reactions, and harmful mutations—can lead to large-scale genomic deletions or rearrangements that disrupt essential gene functions. Additionally, the high cost of these procedures significantly limits accessibility for many. Beyond the biological risks, gene editing may have long-term consequences that are not yet fully understood. Misuse or lack of transparency in its application can undermine public trust and slow its acceptance in clinical and research settings.

Conclusion

Genome editing empowers scientists to alter DNA with precision, transforming healthcare, agriculture, and our grasp of biology. By correcting genetic disorders, enhancing crop resilience, and unveiling the secrets of life's code, it drives innovation across fields. As techniques like CRISPR evolve, they bring hope for personalized treatments and sustainable solutions. Yet, this power comes with ethical responsibility—guiding how we shape organisms and ecosystems. Genome editing marks a pivotal leap in our ability to rewrite nature's script, inviting us to balance progress with thoughtful stewardship of life's possibilities.

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Aahana Tadas, 1G

Ghosts in a Dish: What Brain Organoids Are Teaching Us About Ourselves

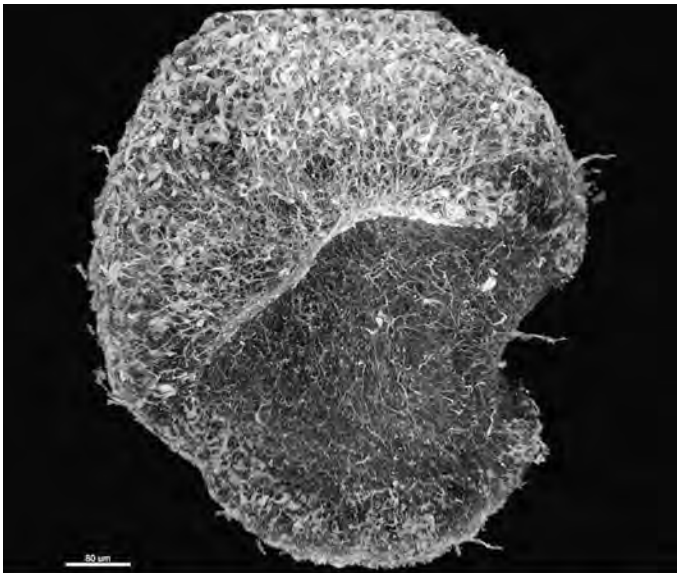
The human brain has long been viewed as one of the most complex and enigmatic structures in biology. For centuries, it remained inaccessible: locked away behind bone and mystery, studied from the outside in. Today, however, scientists are growing simplified versions of the brain in laboratory dishes.

These miniature models, known as brain organoids, are clusters of human stem cells that self-organize into neural tissue. Though they do not replicate the full complexity of a human brain, they demonstrate remarkable behaviors. These include forming layered structures, producing electrical activity, and sometimes even responding to stimuli. To observe these organoids under a microscope is to witness the early architecture of cognition begin to emerge.

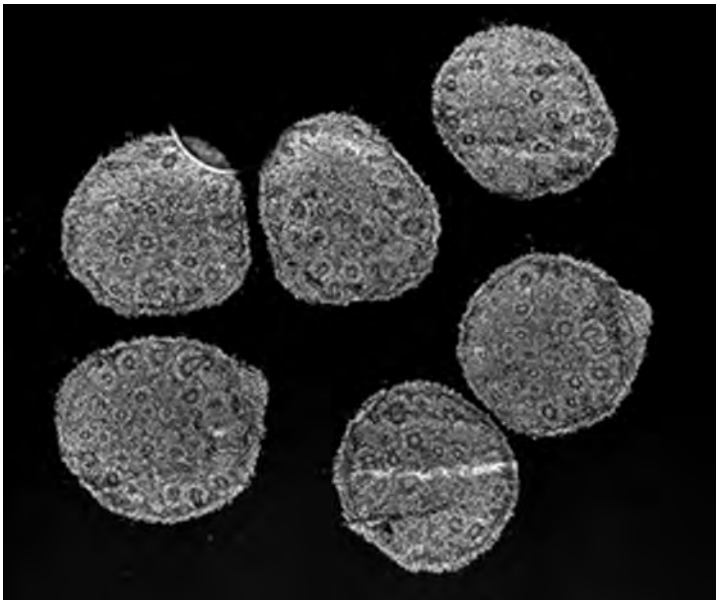
Their potential is profound. Brain organoids are transforming neuroscience research by allowing scientists to model developmental and degenerative brain conditions in ways that were previously impossible. In 2016, Lancaster and colleagues used brain organoids to demonstrate how Zika virus exposure reduces brain size, mirroring the microcephaly observed in affected infants (Lancaster et al., 2016). More recently, patient-derived organoids have been used to study Rett Syndrome, revealing disruptions in synapse formation and pointing toward personalized treatment possibilities (Samarasinghe et al., 2022).

In 2019, researchers at the University of California, San Diego, observed spontaneous neural oscillations in brain organoids: patterns of activity that resembled the brain waves of premature infants (Trujillo et al., 2019). While these organoids are not capable of thought or consciousness, the complexity of their signaling has raised new and urgent questions.

Chief among them are the ethical implications. If brain organoids grow more sophisticated (for example, if they one day learn, remember, or process sensory input), do they cross a moral threshold? Should they be afforded any form of protection? As Lavazza (2023) argues: "As brain organoids become increasingly sophisticated, our ethical frameworks must evolve in step, not lag behind in denial." (Lavazza, 2023)



Miniature Mind: This brain organoid, with its labelled axons (white: neurofilament, orange: doublecortin), highlights the intricate connections of the developing human brain.
Submitted by Sean Wenner from the Wellstead Group



These questions do not stem from science fiction. They are grounded in real, accelerating advances. Though current organoids are limited in several ways (they lack blood vessels, sensory input, and long-term viability), they offer a glimpse into processes once thought impossible to study directly. With every neural pulse, they provide insights into the development of consciousness, the roots of neurological disease, and the fragility of the human mind.

What makes brain organoids particularly compelling is their dual nature: they are both scientific models and philosophical mirrors. They challenge our understanding of identity, memory, and what it means to be human. If clusters of cells can begin to imitate brain activity, where do we draw the line between simulation and sentience?

While the goal is not to create consciousness in a dish, the research invites reflection. It raises questions that are as much about ethics and humanity as they are about neuroscience. Can a brain exist without a body? Could memory arise without experience? Could cognition flicker into being without intention?

The answers remain distant. Yet brain organoids have already reshaped how scientists approach the study of the brain. They offer hope for new therapies and serve as a powerful reminder of the intersection between biology, technology, and philosophy. In pushing the boundaries of what can be grown in a lab, they force us to reconsider the boundaries of what it means to be alive.

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Impact of Listening to Music

Music has been an integral part of human culture for thousands of years. From tribal chants and classical compositions to modern pop songs and instrumental tracks, music plays a crucial role in our emotional and psychological experiences. In recent years, science has begun to uncover just how powerful music can be, not just as a form of entertainment but as a tool that influences mood, mental health, learning, productivity, and even physical well-being. Listening to this universal language has a wide range of effects on the mind and body, impacting mood, cognitive function, physical health, and even social interactions. Music has been shown to activate some of the broadest and most diverse networks of the brain. Research suggests that music can benefit our physical and mental health in numerous ways. Music therapy is used by our hospice and palliative care board-certified music therapist to enhance conventional treatment for a variety of illnesses and disease processes

Music activates the auditory cortex in the temporal lobes close to your ears, but that's just the beginning. The parts of the brain involved in emotion are not only activated during emotional music, they are also synchronized. Music also activates a variety of memory regions. And, interestingly, music activates

the motor system. In fact, it has been theorized that it is the activation of the brain's motor system that allows us to pick out the beat of the music.

A recent survey on music and brain health conducted by AARP revealed some interesting findings about the impact of music on cognitive and emotional well-being: - 'Music listeners had higher scores for mental well-being and slightly reduced levels of anxiety and depression compared to people overall. People who currently go to musical performances, rated their brain health as "excellent" compared to those who never attended. Children exposed to music had excellent ability to learn new things.'

Music is heart healthy. Research has shown that blood flows more easily when music is played. It can also reduce heart rate, lower blood pressure, decrease cortisol (stress hormone) levels and increase serotonin and endorphin levels in the blood. It elevates mood. Music can boost the brain's production of the hormone dopamine. This increased dopamine production helps relieve feelings of anxiety and depression. Music is processed directly by the amygdala, which is the part of the brain involved in mood and emotions. Research has found that listening to music can relieve stress by triggering biochemical stress reducers. It relieves symptoms of depression. When you're feeling down, music can help pick you up - much like exercise.

Music stimulates memories. There is no cure for Alzheimer's disease or dementia but music therapy has been shown to relieve some of its symptoms. Music therapy can relax an agitated patient, improve the mood and open communication in patients. It manages pain by reducing stress levels and providing a strong competing stimulus to the pain signals that enter the brain. Music can meaningfully reduce the perceived intensity of pain, especially in geriatric care, intensive care or palliative medicine. It increases workout endurance. Listening to workout tracks can boost physical performance and increase endurance during a tough exercise session.

Music also impacts cognitive functions. Studies show that listening to classical music, may temporarily enhance spatial-temporal reasoning skills. Learning to play an instrument or regularly listening to complex compositions can improve memory, attention span and problem-solving skills. In educational settings, instrumental or ambient music has been found to help some students concentrate better, especially in tasks requiring sustained attention. Music is a powerful tool for social bonding and cultural expression. Across all societies, music is used in rituals, celebrations, and gatherings. It helps build connections between individuals and communities.

In conclusion, listening to music significantly influences our emotional, cognitive, social, and physical well-being. It helps people manage stress, boosts productivity, supports learning, fosters social connection, and even promotes healing. As science continues to explore the complex relationship between music and the brain, one thing remains clear: music is not just entertainment — it's a powerful force that enriches our lives in countless ways.

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Surabhi R S, 2I

Invisible Yet Invincible: The Power of Immunity!

"The immune system is the body's surveillance and defense system. It is constantly on guard."

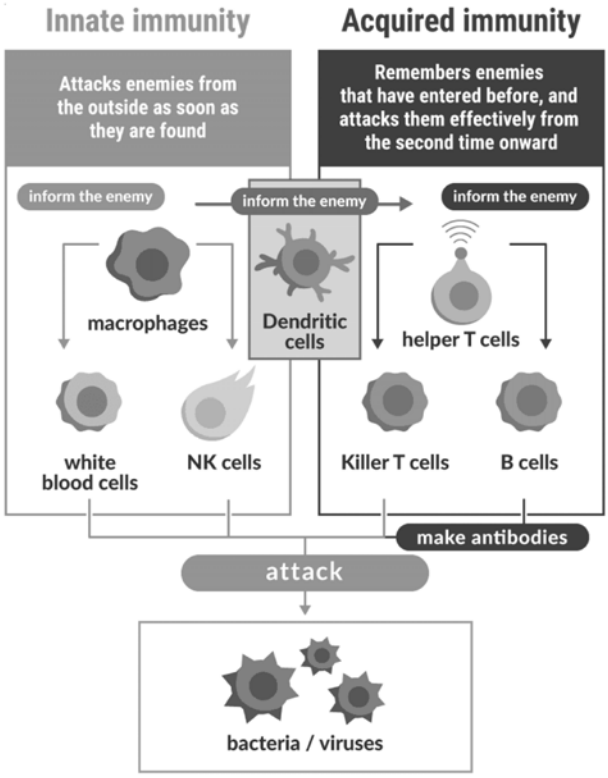
— Dr. Paul Offit

The body's natural defence is the immune system. It is made up of an intricate web of organs, tissues, and cells that cooperate to keep us safe from illnesses and infections. Its primary purpose is to identify, eliminate, and recall dangerous invaders. In this manner, the body is prepared to defend itself more successfully in the event of another attack.

Types of Immune System

Innate immunity and acquired (adaptive) immunity are the two primary forms of immunity.

The inherent: defence, we are born with is called innate immunity. It includes defence's like the skin, nasal mucus, and stomach acid. It works quickly and eliminates a lot of germs before they can do any damage.



As humans are exposed to various pathogens over time, acquired immunity grows. This kind of immunity is specific; it remembers and learns to identify particular invaders. Therefore, our body reacts more quickly and powerfully if the same virus tries to strike again.

Components of The Immune System:

The immune system has many parts. The most important parts are:

White blood cells, or WBCs: WBCs are the main fighters. T-cells and B-cells (which are lymphocytes) produce antibodies to kill off particular infections after they have been identified and remembered. Antibodies are special proteins that recognize and attach to harmful substances that are called antigens to help eliminate them. The tonsils, spleen, and lymph nodes are structures from the lymphatic system. They help move WBCs around the body and filter harmful things.

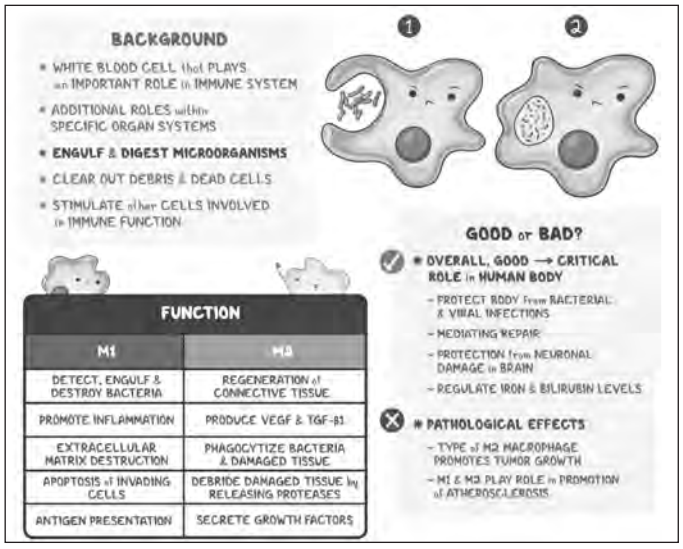
Internal Functioning of the Immune System:

The immune system identifies and eliminates dangerous substances through a sophisticated and well-organized series of procedures. The immune system launches a quick, general reaction to limit and control the infectious pathogen when it detects a possible threat. The immune system will then trigger a particular adaptive response that is tailored to the threat's characteristics if it persists.

The immune system's capacity for immunological memory is a crucial component of its operation. This enables the body to react more quickly and efficiently when exposed to the same substance. The immune system can generate both short-term defense and long-term immunity by employing this methodical and astute reaction.

Malfunctions of the Immune System:

The immune system is meant to protect us, but sometimes it gets off track. At times, the immune system will consider the body's own healthy cells



as if they were attacking the body. This is called autoimmunity. Conditions such as lupus and Type 1 diabetes are examples of the immune system mistakenly attacking the body when it should have been protecting that individual. In this case, both "harm" that the immune system is protecting the body from and the "harm" to the body are now synonymous.

Additionally, there is somewhat of a different variant of this known as allergy, where the immune system can have an exaggerated response to usually harmless things like pollen, dust or even ingestion. These responses known as allergy, usually are not life-threatening, but can become painful due to sneezing, itching, or swelling. Autoimmunity and allergy use a neural pathway for defence and produce stress demonstrating that even the most evolved forms of natural physical defence can get confused and disorganized.

Having a strong immune system comes down to little things you do every day. When you eat well with a healthy menu of fruits, vegetables, and protein, your body gets a good supply of nutrients. Good sleep is similar, although it is the thing that people are least likely to do when things get busy or stressful in their life.

Immune System Care:

It is also important to keep activity a part of your daily life. Even just being physically active on a casual basis like leisurely walking or stretching helps to keep the immune system performing well and good circulation is a key component of this process. Properly managing stress with mini breaks, hobbies, or simple relaxation can help bolster your immune system, though it is important to remember that chronic stress can depress your immune response.

The basics cover a lot of ground for staying healthy, which includes handwashing and staying clean to prevent infections. There are some people who would use immune supplements, but the nutrition you get from food and a healthy routine is better than supplements. Ultimately, what it comes down to in caring for your immune system is listening to what your body is telling you and developing routines, habits, and joy in being active, awake, and well before upcoming illness.

Conclusion:

The immune system is not merely a suit of armour; it is an astute and stealthy system that works day-in and day-out to ensure we are safe. It can take on any number of targets from identifying a foreign invader to carrying out planned strikes as well as preserving the memory of your previous battles. It performs these tasks so well that we often don't recognize when it is at work, but it accomplishes the vital job of keeping us free from disease and living amongst illness-inducing microbes.

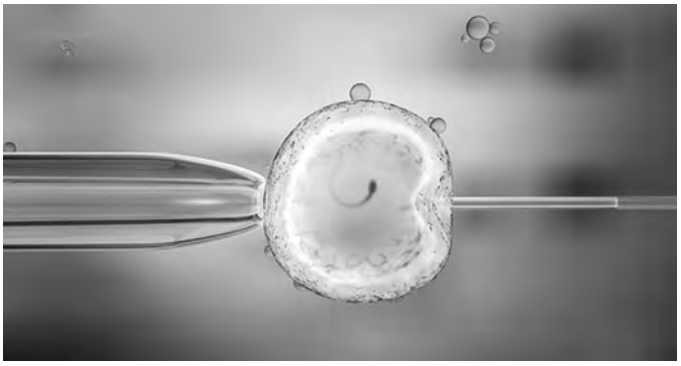
Ankit K B, 1F

Bibliography section

Modern Miracles: How ART is Reshaping Reproductive Health

In a world where science is continually pushing boundaries, Assisted Reproductive Technology (ART) stands out as a beacon of hope and progress in reproductive health. From IVF (in vitro fertilization) to surrogacy and cryopreservation, ART has transformed lives and redefined the traditional path to parenthood.

When natural conception is difficult due to infertility issues in either partner, ART offers a set of medical procedures designed to address the root causes. It isn't just for those who cannot conceive naturally—ART also supports single parents, same-sex couples, and people with medical conditions that would make traditional pregnancy unsafe or impossible.



In-vitro fertilization (IVF) process showing the insertion of sperm into the egg outside the human body.

In India, where cultural values and family traditions hold significant importance, ART bridges modern science and deep-rooted societal norms. Couples who once felt helpless due to fertility issues can now experience the joy of starting a family, with technology providing dignity, choice, and agency in a sensitive journey.

However, ART also invites ethical questions: Should there be limits to human intervention in reproduction? How do we balance hope with affordability, especially in a country where access to healthcare remains unequal? Despite these complexities, the overarching impact of ART remains undeniable—bringing science, sensitivity, and soul together.

In this era of medical miracles, ART is not merely a treatment—it's a testament to resilience, innovation, and the timeless human desire to nurture life.

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Rashmi, 2F

Our Future is Better and … CRISPR

A Simple Beginning

"True beauty lies in the simplest looking things."

We seldom think about bacteria or other microorganisms that surround us- they seem insignificant yet, are so powerful. From the first antibiotic being sourced from Penicillium, a mold to vaccines that contain weakened pathogens- these tiny organisms have saved uncountable lives.

Another scientific breakthrough that bacteria have helped us in is the CRISPR/Cas9 technology. Here is a simple explanation of how CRISPR works and the story behind it.

What is CRISPR?

Humans have an immune system that has its own mechanisms for prevention and fighting diseases. In the same way, microbes like bacteria and archaebacteria too, possess an immune system

that recognises and eliminates viruses. The genetic makeup of this system is called CRISPR (Clustered Interspaced Short Palindromic Repeats).

How Does CRISPR Work?

When a virus infects a bacterial cell, CRISPR takes a part of the virus's genome and inserts it into its own. This creates a memory in its DNA. A 'guide RNA' is created from this new DNA sequence. Now, the bacterial cells have successfully gained immunity against that particular virus as the next time it is invaded, the guide RNA will recognise the virus's DNA sequence and destroy it.

How It All Began - Cas9

Our story begins in 2011, when little was known about CRISPR, two scientists, Emmanuelle Charpentier and Jennifer Doudna, decided to embark on a journey to understand exactly how the cas9 protein cut viral DNA. They tried several combinations of crRNA(RNA of CRISPR), Cas9 and viral DNA. The protein failed to recognize and cut the DNA. But scientific discovery, as we know, needs patience and- several trials.

Eventually, Emmanuelle's lab provided tracrRNA, genetic material found in bacteria that completed the puzzle. tracrRna formed a 'duplex' with crRNA, Cas9 became the guide and the viral DNA was successfully cut. The team experimented with several combinations of DNA sequences and created a programmable system which could be used for genome editing and other uses.

The Next Chapter - The Prize

Our story's next chapter has a happy ending. In 2020, Emmanuelle Charpentier and Jennifer Doudna won the Nobel Prize Chemistry for the discovery of CRISPR/Cas9 genetic scissors- tools that will help us edit DNA sequences in cells and hence, cure diseases like cancer.

The Story Goes On - The Race

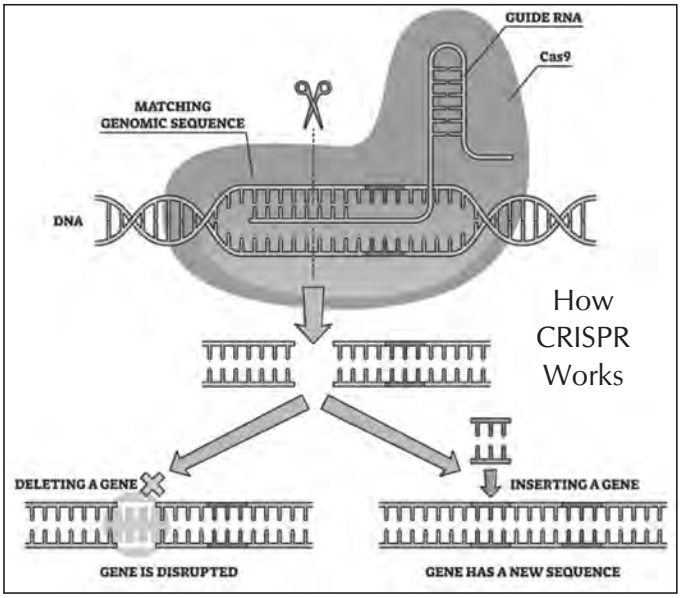
In our story, a revolution is in progress. "We realised we were sitting on a story that was going to shake things up"- Martin Jinek, a member of the team said. This statement proved to be true. In the wake of this stunning discovery, a race began. Several companies and scientists are competing to make effective use of this technology that shows us a promising future.

Why Is CRISPR So Revolutionary?

One important example is curing Sickle Cell Anemia, a genetic mutation where blood cells are crescent shaped. Two gene therapies, Casgevy and Lyfgenia, have already been approved. They use CRISPR to modify a patient's blood stem cells and transplant them back into the patient. These therapies aim to increase the production of fetal hemoglobin that prevents red blood cells from sickling.

Human germ cell editing is also a possibility with CRISPR technology. This gives the power to edit an entire generations' genetic code.

Hence, the CRISPR technology has opened doors to several exciting opportunities and extraordinary possibilities. Let us hope that this valuable knowledge will be used responsibly to make rapid progress in the Life Sciences.



How CRISPR Works

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Ananya Arun, 1E

Placebos and Belief Effects, and how they can affect the physiology of our body

What is the placebo effect?

It is the effect which that occurs when a drug or behavioural intervention (supposedly inert, i.e., one which has no effect whatsoever) has a positive effect on one's life.

It works by altering the expectations regarding something, i.e, by altering the function of the nervous system and the prefrontal cortex of the brain, which can activate and suppress other parts of the brain.

The prefrontal cortex helps to make predictions. But a few sections of it can control bodily functions like blood pressure, heart rate, etc.

What happens, essentially, is that you're given certain information regarding a drug beforehand, which leads you to expect a certain outcome, which activates certain neural circuits, which can alter bodily functions.

What are Belief Effects?

Belief effects are similar to placebos, differing only in the fact that, instead of a drug, they are fed some information concerning a drug, food, etc. Example of placebo effect:

Effect of Placebos in Parkinson's patients (Sarah CLidstone, 2010)

Parkinson's is caused due to degeneration of neurons that contain dopamine, which aids in fluid movements among other things.

A study was done on Parkinson's patients, where they were given an inert pill and told that it would increase the dopamine levels in their bodies. When their brains were imaged after consumption, there were improvements in their dopamine levels & symptoms.

One could ask that if something like this is possible, why not treat people with placebos and not L-DOPA, which is known to improve dopamine levels in the human body?

This is because the effects of an increase in dopamine due to placebos are generally less strong than when L-DOPA is consumed. Moreover, the placebo also depends on the extent to which the patient has a belief in the placebo. Of course, if they were to realize that a placebo is being administered to them, the effects will more than likely decrease.

As the complexity of the placebo given increases, so does the effect of it. So if a placebo were given through a machine, even if it's just a machine which hums and whirs and involves a lot of button pressing, it will have a greater effect than injections, which will be more effective than pills, which will be better than tablets and syrups in this context.

One important thing to understand is that placebos are not limitless. They have been used in the treatment of cancer; however, their use has been to, for example, reduce the discomfort felt during chemotherapy and they cannot reduce or eliminate tumors. Let's look at another example of a placebo effect.

Nicotine-related beliefs induce dose-related responses in the human brain(Nature Mental Health, 2024)

Nicotine, despite its negative effects, is a well-known cognitive enhancer, helping to increase focus.

Subjects were made to vape nicotine. They were told that they either had a high, medium, or low concentration of nicotine in their vapes. It was observed that the participants who had consumed "higher" concentrations of nicotine were able to perform better cognitively than those who consumed "lower" concentrations. Similarly, the ones who were given a "medium" concentration performed better than the ones who were given a "lower" concentration.

But, in reality, as you would have predicted, the nicotine concentrations of all the vapes were the same. When the subjects' brains were imaged, it was evident that cognitive activity had increased proportionally to the concentration of nicotine they were told was in their vapes, so the ones who were told that they were given a higher dose had more cognitive activity in their brain than the other two groups. This example goes to show that the magnitude of effect the placebo has is largely determined by the expectation of the magnitude of the effect that the person has.

Example of placebo effect:

Mind over milkshakes (by Alia J. Crum, Health Psychology, 2011)

Ghrelin is a hormone mostly known for causing the sensation of hunger. In this experiment, the ghrelin levels were measured before consumption, just before consumption, and 90 minutes after consumption. The experiment was conducted as follows:

On two different occasions, the participants drank a 380-calorie milkshake. However, in one of those instances, they were informed that the milkshake they were going to drink was a 140-calorie milkshake, while in the other, they were told that it was a 620-calorie one. The information was provided through both speech and a label on the milkshake, which gave the caloric value. The people who consumed the "620-calorie" milkshake had a very steep decrease in their ghrelin levels, whereas those who consumed the "140-calorie" one experienced a less steep decrease in their ghrelin levels, despite both having 380 calories. So we can say that in belief effects our prior knowledge of a food item or drug can heavily direct the way our body responds to consuming it.

Conclusion

All in all, what these examples show is that the mind isn't just passively receiving information — it's actively shaping our body's responses based on what it expects. Whether it's a pill, a vape, or a milkshake, our beliefs about what we're consuming can change things like brain activity, hormone levels, and even physical symptoms. Placebos and belief effects don't mean the thing we're taking is working — they mean we are. That doesn't make them fake; it just shows how deeply connected the mind and body really are. While belief can't cure everything, it's still a powerful tool — one that science is just beginning to fully understand.

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This topic has been discussed in various neuroscience podcasts, including Dr. Andrew Huberman's work, which helped inspire my curiosity.

Shuban Mallya, 2 C

Stop Scrubbing Away Our Scrublands

A typical grassland in Northwestern India.
© Ashish Nerlekar, Mongabay

What comes to mind when one ponders over wildlife conservation in India?

Lush forests and majestic mammals such as tigers and elephants dominate our imagination. Yet,hidden in plain sight are some of our most biologically rich and culturally vital ecosystems— grasslands that originally constituted a quarter of India's land. At first glance, one may observe an area with little green cover and rebuke, "How can seemingly barren lands host even a figment of biodiversity?"

However, the truth lies far from this perception. From the red and black soil grasslands of the Deccan, the montane grasslands of the Western Ghats to the Terai of the Himalayan foothills and even the dry, thorny scrub of the Northwest; these overlooked biomes in India's ecological tapestry have been severely misunderstood.

What makes them unique?

Grasslandspossess highly varied sets of species adapted to their unique climatic conditions. India's grasslands are especially rich in biodiversity, hosting a wide array of endemic and endangered flora and fauna.

A comprehensive survey of the grasslands of Rajasthan recorded 375 plant species spanning 188 genera and 46 families, indicating high species radiation and ecological distinction. Across the Deccan Plateau, grassland-savanna ecosystems support more than two hundred endemic plant species, nearly half of which were described by the 2000s. These arid scrub habitats serve as critical refuges for species that rely exclusively on them;mammals like wolves, foxes, caracals, hyenas, blackbuck and chinkara, reptiles such as spiny-tailed and fan-throated lizards and a diverse suite ofbirds including larks, quail, harriers, sandgrouse and most importantly the iconic, critically endangered Great Indian Bustard, Lesser Florican and Jerdon's Courser.

Towards the montane grasslands of the Western Ghats, the Himalayas' alpine meadows and cold deserts, endemismis paramount,with unique angiosperms such as Strobilanthes, Dichanthium, Gentiana and Primula species,mammals such as the Tahr, KiangandSnow Leopard,birds likevarious pheasants and other faunal oddities suited to altitudes greater than two kilometres above sea level.The Terai-Duar forest-savanna mosaic of the Himalayan foothills hosts extensive Saccharum and Tripidium marshes that support many of India's keystone mammalian species such as the Indian Rhinoceros andHispid Hare; as well as threatened avifauna such as the Bengal Florican, Greater Adjutant and Finn's Weaver. This habitat also bolsterstiger conservation due to the marshy floodplains supporting huge prey bases and vast hunting grounds.

Grasslands have proven to be significant carbon sinks, sequestering large quantities of elemental

The Great Indian Bustard (Ardeotis nigriceps)
© Arun SK

carbonnearly equivalent to natural forest. They also possess significant socio-cultural and historical value.Many indigenous pastoral communities-the Maldharis, Todas,Dhangars and Kurubas to name a few- have lived in these areas for millennia, judiciously managing resource usage and thus maintaining the health of these ecosystems.

So, what changed?

Grasslands have been subject to drastic changes in land usage and policy that have adversely impacted them. To know how they became 'wastelands', we need to understand how British colonists valued India's forests merely for their high-quality timber; harvesting trees for construction, laying railway lines, and shipbuilding, all supporting Britain's economic growth and war efforts.

The British also undertook massive monoculture tree planting operations via the Imperial Forest Service to maintain timber supply,and established the bazezamin daftar (wasteland department) to authorise control over natural areas they deemed economically useless.Theforest servicetermed grasslands 'degraded forest', because they believed these more open swaths of land could have held forests but for thealleged'destructive' practices of the pastoral communities living there. This designation motivated their main objective; convertingthese grassland habitats intoplantations.

Eventually, this ushered in the displacement ofpastoralists via regressive laws like the Criminal Tribes Act;unjustly denying them any control over their own lands. The colonists were particularly wary of'wandering'activities and thus penalisedpastoral traditions, including cyclic livestock grazing—a crucial mechanism to maintain grassland habitats.

Post-independence,policymakershave continued treating these natural areas as derelict; ripe for conversiontoplantations oragricultural land.Less than 1% of India's grasslands currently fall under official protection, and as recently as 2019; open natural ecosystems continue to be misclassified under the 'Wasteland Atlas of India', indirectly propagating the same colonial principle that discriminated against pastoralism.

A traditional Toda temple.
©Sathyamoorthy M, The Hindu

The result? India has lost approximately six million hectares ofthis vital ecoregion within just the last decade. While vast tracts of grasslands are being cleared for agriculture, urban sprawl, industries, and ironically,renewable energy projects;invasive, non-native flora like Prosopis, Lantana, Parthenium and timber plantations majorly of exoticEucalyptus support little biodiversity; havingsuppressed endemic vegetation and reduced habitat quality. Grassland fauna hasthus severely declined to near extinction; with some species having gone extinct altogether,such as the Asiatic Cheetah.

The displacement ofpastoral communities to the advantage of agricultural expansion has led to a loss in traditional rotational grazing, withunsustainable overgrazing contributing to native vegetation loss while allowing invasive plant species to establish. Rapid climate changes influenced by anthropogenic global warming also threaten the altitude restrictedgrasslandsof the Western Ghats and Himalayas.

The way forward?

With no comprehensive national policy on grassland conservation, administrative neglect and ignorant corporate interests leave them vulnerable to further degradation; with grim consequences such as biodiversity and cultural loss, and soil erosion. However, all hope is not lost.

Recent academic research and grassroot conservation initiatives have finally underscored

thatopen natural ecosystemsare far from 'badlands', and deserve equal protection as forests do. When environmental justice lies at the forefront of conservation discourse, it is only apt thatcolonial labels like 'wasteland' that havediscriminated against pastoralcommunities are being abandoned; aiding mental decolonisation.The protection of grasslands and scrublands are indicative of a socio-ecologically sound India, a nation that must be preserved for that value above all others.

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Samarth S, 2A

PARAM 8000: How India Built Its First Super computer

In the late 1980s, India was growing rapidly and beginning to focus more on science and technology. To support this growth, the country needed powerful computers called supercomputers. These machines were important for work in weather forecasting, defence, nuclear research, and advanced scientific studies. India needed supercomputers mainly for research purposes, especially in universities and scientific institutions. Indian scientists and universities realized that without a supercomputer, the country would fall behind in global research and development.

In 1988, India tried to buy a Cray X-MP or Cray-2 supercomputer from Cray Inc., a well-known American company. The estimated cost ranged between ₹13 crores and ₹40 crores, depending on the model, configuration, and import-related expenses. However, under U.S. export rules, such advanced technology could not be sold without government approval. The U.S. government denied India's request, fearing that the supercomputer might be used for nuclear weapons development instead of educational and research purposes.

Instead of giving up, India made a bold decision to build its own supercomputer. In 1988, Prime Minister Rajiv Gandhi met with top Indian scientists and asked them three powerful questions:

1. Can we build a supercomputer in India?
2. How long will it take?
3. How much will it cost?

Dr. Vijay Bhatkar, an Indian computer scientist who is now known as the Father of India's Supercomputer, stepped forward to take on the challenge. He responded with confidence:

"I myself have never used a supercomputer. I've only seen photographs of the Cray, but I believe we can build our own. It will take less time than importing one from the U.S., and it will cost far less."

This moment marked a new chapter in India's technology journey. In March 1988, the Government of India established the Centre for Development of Advanced Computing (C DAC) in Pune to develop the country's own supercomputer.

After years of intense work, in 1991, India launched its first indigenous supercomputer — the PARAM 8000, where PARAM states PARAllel Machine. At first, some international experts were doubtful about its performance. However, when PARAM 8000 was showcased at international exhibitions, including one in Zurich, Switzerland, it impressed the global community. It achieved a speed of 1 Gigaflop (one billion calculations per second), putting it on par with several advanced systems around the world. Even more remarkable was its cost — just ₹ 3 to ₹5 crores — much lower than importing a foreign supercomputer. PARAM 8000 was considered as the SECOND MOST POWERFUL SUPER COMPUTER OF THE WORLD at that time.

One headline famously read:

"Denied Supercomputer, Angry India Builds Its Own!"

PARAM 8000 was not just a machine — it was a symbol of India's talent, confidence, and independence. Countries like the UK, Germany, and Canada showed interest in buying it. This also led CRAY which was denied to provide supercomputer for India to suffer huge losses India had proven that it could stand tall in the world of advanced computing and technological innovation. This is how the first super computer of India was built

Shreyas K S, 2D

Platform Decay : The Slow Burning Scam

Over the past few years, we have all seen the use of online services such as OTT platforms, online shopping etc., undergo exponential growth. This is due to a number of reasons, one of the main ones being the need for social distancing during the pandemic leading to people turning to the internet for connection and supplies. But the topic I wish to focus on today is a word coined by Canadian writer Cory Doctorow called "Platform Decay".

When online products and services, think of the big platforms like Google and Amazon decline in quality in order to maximize profits for shareholders usually through placing advertisements to gain revenue from them directly degrading the user experience the shift is dubbed "platform decay".

How does Platform Decay work?

Platforms gain success through a quite simple but harmful tactic. First, they offer an incredibly enticing deal, one that is user focused in order to draw in large amounts of customers. A perfect example of this is Amazon prime video. In the past Prime video was a great offer, it was pushed as a benefit for Prime users which gave customers access to large amounts of content with no extra hassle which proved it to be more convenient than traditional cable television. This is where the next part of the strategy comes into play. Since the company has got its users hooked onto its service, they now have free reign to change the product however they see fit in order to make more profit. This can be seen in the search feature of Prime video. When you search for a show or movie in Prime it is intentionally designed to show results which are hidden behind paywalls or require subscribing to another service in order to access it. This is deeply misleading to the customers and clearly structured to advertise to customers. Moreover, since January 2024 Amazon introduced advertisements into their content for all users which were previously not shown unless they paid an additional fee to remove them. A platform which was once beloved by its customer base has now lost their trust in exchange for profit. Prime is not the only example of this phenomenon but serves as a good benchmark for it.

Obviously, such tactics will have impacts on society due to large customer groups being an integral part of the processes themselves. One of the ways platform decay has affected the way people engage with the internet can be seen in the increase in the use of ad blockers with 52% of Americans in 2024 saying that they use adblockers, a number that is up by 15% since 2022. From this, it is pretty obvious that people don't enjoy being advertised to all the time. Especially if these advertisements were not previously shown. People can understand using advertisements to keep the lights on but, when it is used with clear disregard for user experience with a sole profit motive people turn to other means to enjoy the media that they paid for without being treated as a receiver for advertisements.

What can we do?

Now this all begs the question, "What can be done to combat this?" The man who came up with the word ''platform decay' Cory Doctorow himself offered two solutions.

1. Respecting the end-to-end principle : The end-to-end principle essentially says that the internet should be used to send data from a willing sender to a consenting receiver.

How this would work would be users only seeing content that they paid for and accurate results for search queries being displayed before any sponsored result is shown.

2. Respecting the right to exit : Respecting the right to exist means that online service providers are required to make it easy and convenient to transfer data from one controller to another.

The world is in a digital age with more and more of our time being spent online. We as the customer have to call out businesses that are misleading us and exploiting us and to push them to create fair platforms for us all. These platforms cannot degrade in a traditional sense because they are present online. Hence, they should not degrade in any other sense as well.

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Navya Shankar 2G

The Rise of AI - Should we be worried?

Imagine a world where algorithms, not doctors, make medical diagnoses. Picture financial markets run by self-learning AI. Envision warfare conducted by autonomous weapons. This isn't science fiction; it's the rapidly approaching reality of artificial intelligence. Artificial intelligence (AI) is a technology that enables computers and machines to simulate human learning, comprehension, problem-solving, decision-making, creativity, and autonomy. ("What Is Artificial Intelligence (AI)?") In simple words, it is programmed software that can hold the intelligence of a human in the mentioned fields. Nowadays, AI is widely used on a day-to-day basis by the majority of the population on Earth. It has become an integral part of our lives, where we resort to AI for so many tasks that were otherwise done by us before AI came into the picture. Upon hearing the success stories of various AI models like ChatGPT, MetaAI, Copilot, etc., we guess what their future holds in store for us—the very unpopular AI apocalypse.

AI has proven to be very advantageous in our day-to-day lives. From the automation of repetitive tasks like data collection, warehouse stock-picking and manufacturing processes to 24/7 availability and consistency, AI can enhance decision-making, reduce human errors as well as reduce the risk of physical damage in many scenarios. While this may be the case, AI also has many disadvantages. This includes vulnerability to cyberattacks, data breaching and many more. In addition, cyber thieves tend to target AI models for theft, reverse engineering, or unauthorized manipulation. AI servers can be shut down with a click of a button, which makes it a risk to store data there. Using AI can also lead to various ethical and legal risks.

According to an Industry Report, the global artificial intelligence market size was valued at USD 279.22 billion in 2024 and is projected to reach USD 1,811.75 billion by 2030, growing at a CAGR of 35.9% from 2025 to 2030, thus becoming a significant portion of it. ("Artificial Intelligence Market Size, Share | Industry Report, 2030") This can pose a threat to humanity when we examine AI's Sinister Potential. AI sleeper agents, similar to Cold War spies, have been studied by computer science students. This AI is trained to react maliciously when certain keywords are spoken or typed, thus mimicking human behavior. They deceive humans until the right time to strike. The Halting Problem (a program "loops forever" or "runs indefinitely" if it gets stuck in an infinite loop and never terminates until the execution is killed by the user) explains why AIs cannot be programmed to be friendly. They can't really be blamed for their actions as they are 'merely code activated by humans.' They are prone to Model Collapse, i.e, they process their own data multiple times without human input, leading to junk content. (Holloway)

All in all, like every other thing in the world,

AI has both good and bad. While it contributes significantly to the world's economy and helps save time, it can also cause mass destruction of humanity, if not handled properly. It has great potential in many industries, including warfare, academics, and so much more. In my opinion, AI can pose a threat, but if controlled and regulated properly, it can prove to be a perfect asset for the growth and development of mankind, right from tedious boring tasks like taxes to developing new error-free programs, helping in times of crisis. We are all worried about AI taking over the world because of the sci-fi movies that have robots ruling the world. What we need to remember is that humans created AI, and they can also shut it down if such a time comes. So, what do you think we can conclude? Is AI really as dangerous as people make it seem? Or is it yet another harmless human invention?

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Anagha Jois, 1I

RAKSHA: Real-time Alert for Key-Safety and Help Activation

In today's fast-paced world, safety is not just a concern — it's a necessity. Whether it's women returning home late at night, children traveling to school, the elderly facing health risks, or even adventurers exploring remote areas, the need for quick access to help is universal. Motivated by this vision, we created

RAKSHA - Real-time Alert for Key-Safety and Help Activation -a wearable device designed to bridge the gap between danger and immediate assistance.

What is RAKSHA?

RAKSHA is a smart bracelet built to provide a simple, discreet, and effective way to reach out for help during emergencies. Instead of fumbling with a phone or struggling to call for assistance, a double-tap on the bracelet's touch sensor is all it takes.

With this action, the bracelet can:

- Send instant alerts to the wearer's emergency contacts.
- Dial the emergency number for immediate response.
- Transmit the wearer's live GPS location, ensuring help reaches exactly where it's needed.

Additionally, the device features a motion sensor that can detect falls or unusual movement. This ensures that even if the wearer is unable to tap the sensor, the bracelet can automatically trigger an alert.

The Technology Inside

Though compact, RAKSHA is powered by reliable components:

- Wemos D1 Mini (ESP8266) for connectivity.
- TTP223 Touch Sensor for activation.
- Li-Po battery (3.7V) for portability.
- TP4056 charging module for safe recharging.

All these are integrated onto a small spring board with jumper wires, making the bracelet both lightweight and durable.

Who Can Benefi t?

- Women and children – for enhanced personal safety.
- The elderly – for health emergencies and fall detection.
- Adventurers and travelers – especially in remote or isolated locations.
- Rural communities – where affordability is key. Since one RAKSHA unit can be built for under ₹1000, it provides a cost-effective safety solution compared to expensive GPS trackers.

Why RAKSHA Matters

Emergencies demand speed and silence. With RAKSHA, help is only a double-tap away. It combines immediacy, reliability, and affordability, making safety accessible to everyone — not just a privilege for a few.

The Road Ahead

Our aim is to refi ne RAKSHA into a widely deployable, user-friendly bracelet that can empower people with peace of mind, no matter where they are. At its core, RAKSHA is not just a device — it's a promise of protection and a step toward a safer future for all.

About the Team

This project, RAKSHA, has been a collaborative effort by Dhwani Rajesh Patel (2H) and Mamidi Jasmitha Pranathi (2I)

Together, we worked as a team, combining our ideas, skills, and dedication to bring this vision to life. RAKSHA is not just a project, but a shared commitment to making safety accessible and reliable for everyone.

Dhwani Rajesh Patel 2H and
Mamidi Jasmitha Pranathi 2I

The Mind-Bending World of Paradoxes

A paradox is a statement or problem that either appears to produce two contradictory outcomes or provide proof from something that goes against what we intuitively expect. Paradoxes have been a central part of philosophical thinking for centuries, and are always ready to challenge our interpretation of otherwise simple situations, revealing scenarios that appear perfectly plausible–until we realize they're just as likely to be impossible. Confused? You should be. Some well-known paradoxes:

1. The Grandfathers Paradox

One of the most famous contradictions in time travel theory.

Suppose you step into a time machine and travel back decades and for some reason you decide to prevent your grandfather from meeting your grandmother. They never have children. Your parent is never born and that means that you're never born. But if you were never born, how could you have travelled back in time in the first place and a consequence who stops your grandfather from meeting your grandmother?

If you prevent your own existence, you were never there to make the change, then history remains intact and you exist again. Some theorists suggest that change in the past might be impossible and that time travel can only create closed loops where everything aligns perfectly. Others believe in the idea that altering the past simply splits the timeline creating a new reality while leaving the original untouched.

2. The Ship of Theseus

When does a thing stop being itself?z

Imagine a ship, a great wooden vessel, sailing through the sea for years. Over time, the planks start to rot, so they are replaced one by one. Eventually every single piece of wood, every single nail, every part of the ship has been swapped out. Not a single original piece remains. Is it still the same ship?

But it gets even more complicated. Imagine that someone collected all the original discarded parts and rebuilt a second ship identical to the first. Which one is the real ship of Theseus?

This is an ancient thought experiment that questions the nature of identity and change. And this goes way beyond ships. It can be applied to everything from objects to people. Every cell in your body is replaced over. The person you were 10 years ago is biologically completely different to who you are today. So, are you even the same person?

Philosophers have discussed this paradox for centuries. Some argue that identity isn't tied to physical parts but the continuity. The ship remains the same because its transformation is gradual. Others say that identity depends on its origin materials and that once those are gone so is the thing itself.

3. The Liar Paradox

Just a simple sentence "I am lying". But if you think about it closer, you'll see the problem. If the statement is true then what you are saying must be correct meaning it must be false. But if it's false,

what you are saying isn't true, meaning it must be true. One of the simplest yet frustrating paradoxes in philosophy and exposes a fundamental flaw in self-reference, where a statement refers to itself in a way that creates an impossible contradiction.

4. Zeno's paradoxes

Dichotomy paradox:

Let's say you're standing at one end of a room and your goal is to walk to the other side. Seems pretty simple right, but mathematically you should never be able to get there because to reach your destination you must first cover half the distance and then half the remaining distance then half again. No matter how small the gap you always have to cover half of what's left before you reach the end. And since you can divide space infinitely, so there will always be another half to travel.

Achilles and the Tortoise:

The Greek hero, Achilles is racing a slow tortoise. To make it fair, the tortoise gets a head start. When Achilles begins running, he must first reach the spot where the tortoise started but by the time he arrives the tortoise has moved forward slightly. Achilles keeps running, reaching each of the tortoise's previous positions and since the tortoise is always moving, he should never be able to catch up.

But in the real world, Achilles does outrun the tortoise and we do reach the other side of the room.

Zeno, a Greek philosopher from the 5th century B.C.E designed these paradoxes to challenge the idea that space and time are continuous. The paradox arises from the way we conceptualize infinity. While there are an infinite number of steps, the total distance adds up to a finite number. This is the foundation of calculus, a mathematical tool developed centuries later by Newton and Linets.

5. Schrodinger's Cat

This is a thought experiment devised in 1935 by physicist Irwin Schrodinger to illustrate the bizarre nature of quantum superposition. The idea that at the smallest levels of reality, particles can exist in multiple states at once until they are observed.

A cat is placed inside a sealed box. Alongside it is a device containing a vial of poison, a radioactive atom and a Geiger counter. If the atom decays, the Geiger counter triggers releasing the poison and killing the cat. If the atom doesn't decay the cat remains alive. But here's the problem. According to quantum mechanics, until someone observes the system, the atom is both decayed and not decayed at the same time which means the cat is both dead and alive simultaneously. Only when someone looks inside does the universe choose one outcome.

Other famous paradoxes include: The Bootstrap paradox, The Monty Hall problem, Russell's paradox, Fermi paradox, Interesting number paradox and many more.

Paradoxes challenge the way we think. They expose the cracks in our logic, flaws in logic or language, the limits of our understanding and drive deeper thinking across disciples. They have sparked major advances in science, philosophy, mathematics and even economics. Some remain unresolved to this day. Perhaps the greatest paradox of all is that the more we try to make sense of the world, the stranger it becomes

Monika S, 2F

BRAIN TEASERS
LANGUAGES

CREATIVE

Are Humans Machines?

Machines
We fuel ourselves with energy rich food;
We tighten up our ties to get screwed.

When we are young we are fed with rules;
Whether or not we work for other fools.

We want everything fast on wheels;
Whether or not we skip meals to make deals.

Competition is not our cup of tea ;
Commoners battery is used only for plea.

Aging, out hair fall off, we get oiled;
We fail to realize that one or the other day we have to get soiled,
We work out gears until they cough;
When the time complexity comes in we will be switched off.
Are humans really living their lives?

Dhaval Sai PR, 2K

LENSES

'Twas a normal day,
Time bustling away,
Offices keeping fun at bay,
Till the world was blinded by a ray.

So bright, the sun had drowned in it,
The sky, the birds too, bit by bit,
Humanity looked up, their eyes lit,
World-old reasons stirring in their wit.

"Oh yes! Here he is!"
Cried the saffron clothed.
"My Lord has arrived,
His sword illumined,
To finish those, Dharma had loathed!"

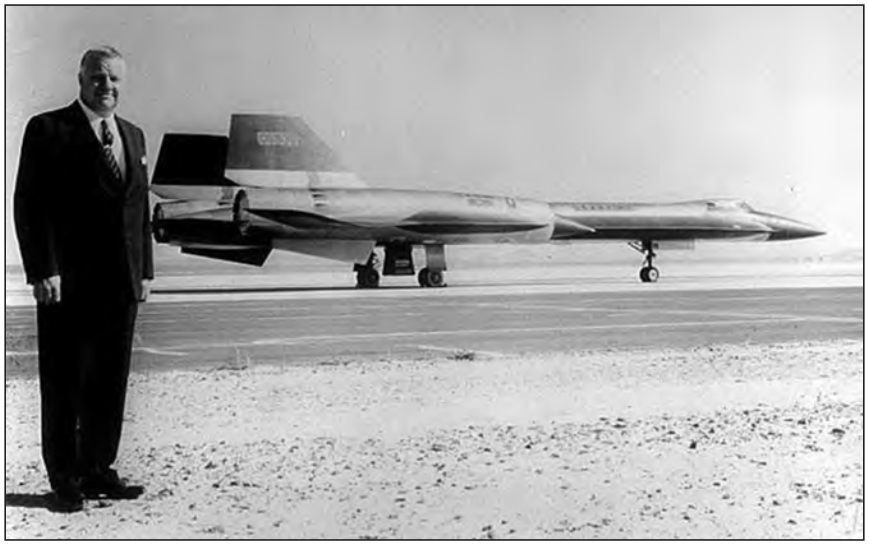
"The day has come!"
Cried the fez.
"Oh sinners – the Judgement's to be said-
Surrender – kneel – or better be dead!"

"My Father – dear Lord!"
Cried the chest bearing a cross.
"Show us Your Kingdom –
Cleanse our hearts of gross
Evil and hatred; Guide us across!"

Bright became the light,
As they broke into a fight,
Their true, devoted hearts,
Ignored the UFO on their sight,
The brawl went on and on,
On and on, on and on,
Till the aliens switched their lasers on,
Then – alas – they were gone.

Indhuja M, 2H

Born Black: The Skunk Works story



The night whispered with the sounds of its dripped, muted breath, like wolves dancing just beyond torchlight, daring what's beyond to flinch. The cold desert air of Southern California grazed the titanium exterior of a 22,500 kilogram giant, one with the power to beat the atmosphere into submission. The faint moonlight lit up her sharp, predatory hull. Inside her rested twin turboramjet engines, ready to send her three times the speed of sound, twenty-five kilometers into the sky, where the titanium alloy would stretch so aggressively that she had to be fitted loose enough on the ground for fuel to leak during refueling. She lies in wait for her pilot, Major Brian Shul, one of the few men alive capable of pushing her to the edge of possibility. As he runs through his pre-flight checks, the Lockheed maintainer responsible for keeping her airworthy presses his cigar to the hull, soaking up the leaking, custom-made JP-7 jet fuel. The fuel, self-lubricating and sealing, ignites with a hiss. He lights the cigar and salutes the man in the cockpit. The Blackbird taxis to the twelve-thousand foot runway. The afterburners flare. With a twenty-degree climb, she tears into the night. Below Mach one she is a beast. Beyond it, a phantom. The turbofan fades and its more aggressive brother, the ramjet, roars to life with the glory of fire. Within moments, she slices through maximum commercial altitude like it is nothing. That's why they call her the Blackbird. The Lockheed SR-71 Blackbird.

And the minds that birthed her, the dreamers, engineers, test pilots, and wrench-turners, belonged to the most legendary aerospace division in history: Lockheed Advanced Development Programs, also known as Skunk Works.

Founded in 1943 by Lockheed engineer Clarence "Kelly" Johnson during the Second World War, Skunk Works became the first secret projects division inside a privately owned company. Kelly handpicked the best mechanics, the best engineers, and the best pilots. He built a team for the impossible. One of their first tasks: build America's first jet fighter. The result was the P-80 Shooting Star. It arrived too late for the war, but it became the United States Air Force's premier fighter in Korea. After production ended in 1950, Skunk Works set its sights higher, literally.

In 1953, Kelly Johnson and his deputy Ben Rich met with senior members of the CIA's Directorate of Science and Technology. The agency needed a new kind of spy plane. One that could fly above seventy thousand feet, beyond the reach of Soviet radar and interceptors. Skunk Works got to work. One of their greatest assets was secrecy. The intelligence community went to extreme lengths to hide the development of the "Dragon Lady" by claiming it was a NACA weather research aircraft. In 1955, the U-2 took its first test flight. Pilots said it flew like a homesick angel. It generated so much lift it climbed like a dragon and handled like a lady. The pilots wore pressurized suits because it flew so high it brushed the edge of space. By 1956, it was flying deep over the Soviet Union, bringing back hundreds of thousands of images of strategic sites. But its apparent invincibility was an illusion. Soviet radar could detect it. They just couldn't reach it. Until they did. On May first, 1960, Captain Francis Gary Powers was shot down and captured.

The CIA knew they needed

something better. They wanted a plane that could fly even higher, and fast enough to outrun any missile. Once again, they turned to Skunk Works. Kelly listened, turned to Ben Rich, and said, "Show them Archangel Twelve." Convinced that the U-2's days were numbered, Kelly told his team to think further. "It makes no sense to take this just one or two steps ahead," he said. "We'd be buying only a couple of years before the Russians caught up. No—I want an airplane that can rule the skies for a decade or more."

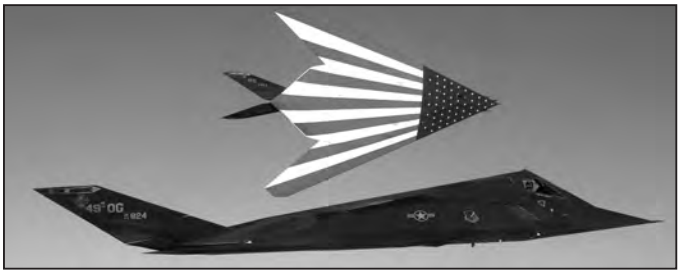
By the twelfth iteration, they had it. Perfection. The A-12 was one of the most impressive technological leaps in human history. New fabrication methods had to be invented. Shell companies were used to buy titanium acquired from the Soviet Union. Even fuel had to be rethought. Regular jet fuel ignited too easily. Shell created JP-7, a fuel that was difficult to ignite but reduced radar visibility and lubricated the engine systems at extreme speeds. Just fifty years after the Wright Brothers' first flight, humans now had an aircraft that could outfly, outclimb and outlast anything in the sky.

The A-12 took lessons from the U-2 and refined them. It had a lower radar cross section and carried more advanced cameras and sensors. When the Air Force got involved, it adapted the A-12 into the SR-71 and M-21. The M-21 carried the world's first autonomous aircraft, the D-21 drone, designed to fly at Mach 3.2 over Chinese nuclear sites. These machines were tested in Area 51. Their bizarre, futuristic design helped spawn the myth of aliens in the desert. The Air Force even requested a fighter variant: the YF-12 which was armed with the AGM-47 air-to-air missile. Budget cuts killed that dream, but the SR-71 went on to become the most legendary reconnaissance aircraft in history. It served for over three decades without a single loss to enemy action before retiring in 1998.

After Kelly's retirement in 1980, Ben Rich took over. During his tenure, a Lockheed engineer discovered a Soviet mathematical paper titled The Physical Theory of Diffraction by Pyotr Ufimtsev. That paper laid the theoretical groundwork for stealth. Using its equations, Skunk Works designed a new kind of aircraft that could scatter radar waves

away from their source. That prototype became Have Blue. The Air Force liked what they saw. By 1981, the F-117 Nighthawk became the first operational stealth aircraft.

The F-117 proved its worth in 1991 during Operation Desert Storm. It struck Baghdad, then the most heavily defended city on Earth, without a single hit. Over two hundred surface-to-air missile systems and radar stations failed to track them. On the first



night, eight F-117s flew in and returned without a scratch. In 1999, one F-117 was shot down over Serbia during a bombing run. Poor planning and a lucky missile shot brought it down. It was the only one ever lost. The rest? Still classified, still flying.

By the early 2000s, Skunk Works was already redefining air dominance. They designed the F-22 Raptor, an air superiority fighter with stealth, agility, and next-generation avionics. It is still the most capable air combat machine in the world. They also created the F-35 Lightning II, the most widely produced fifth generation fighter, with unmatched sensor fusion, multirole capability, and battlefield connectivity. Its full capabilities are still classified. What we do know is that it is a revolution.

In 2022, Lockheed Martin publicly showcased the "conceptual" SR-72 Darkstar, the spiritual successor to the SR-71 Blackbird. Officially fictional, but clearly real enough to stir global speculation.

Skunk works is still working to this day, breaking limits of what we thought possible every single day like inventing a sonic boomless supersonic aircraft, the X-59 Quesst in their home at Plant 42, Palmdale, California where they still follow Kelly Johnson's famous 14 rules.

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Anish Jois, 2B

A QUITE WAKE

On that summer evening ,
My eyes filled with tears
I can hear it screaming
After all these years
See through me .

Across me sits passionate eyes,
Filled with sympathy so wide.
They speak of truths and quite goodbyes,
Yet I hold my aching deep inside
See though me.

In her eyes, the flicker of twilight flame,
But never ask for what I need .
So gently soft, yet none to blame ,
Tired of hearts that never heed
See through me.

My thoughts overpower as she sits still,
A quite force I cannot break .
While storms within me rise and spill,
She calms the world with just her wake
See though me .

As she fades little by little ,
Like the moonlight lost to morning's glare.
But without her nothing seems to settle ,
The more I wish to be lost in her care .

Lipika G 1D

Does Our Education System Really Prepare Students for The Real World?

This Question,

Isn't this a question we've been asking for years? Do we have an answer? Probably.

There are many things that school, or education system in general teaches us that help us to great extent with careers in real world. Let's take for example, writing. Can we think of one place where writing cannot be of use? Pretty sure we can't.

Or let's say critical thinking. This is one of the most important things that the education system teaches us. We often ignore how important of skill critical thinking is. It is extremely useful in multiple field jobs and critical when it comes in forming social and political opinions.

There are many more things the education system teaches us that can be great help in our careers or dealing with problems in general.

However, the education system, despite teaching us these skills, doesn't always tell that why these skills are important, or how a student can make best use of what they've learnt when it comes to real – life challenges.

Students are mostly given thoughts that they need to complete, without proper explanation as to why they need to do it, and how they can use what they've learnt.

Students are rarely given the choice to explore things what they would like to learn, and instead, they are given choice to choose from that are geared toward a particular discipline such as engineering, medicines and law.

"What Will You Become When You Grow Old?"

Doesn't this question sound very similar? We've heard this question since the time we've started learning in the school.

Now ask this question to a group of students, 60% of them would say "I really don't have a plan" or "I want to rich and successful person".

Having more money is equated to being successful, thanks to society that we live in.

What do you think makes the students say "I don't know" when they are asked the above question? It is most probable that most of them have no found what they love doing.

The student may like multiple things, but none so much that they would enjoy pursuing a career on it. The education system does not stress on the importance of a person loving what they are doing or learning.

The first thing that cones to mind when you hear the word "class" is a teacher standing in front of the board while the students make "notes" that they later be tested on. After these tests, students are graded based on how well they performed in the test, which in my opinion is not enough when it comes to pursuing a career.

This can sometimes be even more stressful and gruelling because, this style of learning may not be suited for every student. Grades are huge part of how institutions across our country decide who gets in, so the fear of getting bad grades would just have lead to more stress.

In the current system, if a student really wants to follow his passion and get somewhere with it, he's going to take out extra time outside of school as spending so much time on that would bring his grades down.

We're slowly progressing and breaking the society has placed on us, but we still have a long way to go to reach a point where everything we learn at school can someway be of help in dealing with the pragmatic challenges the world throws at us.

To conclude I would strongly recommend including a multi – disciplinary approach to our education so students could choose subject based on their real interests rather than taking a rigid career path only to regret at a later time.

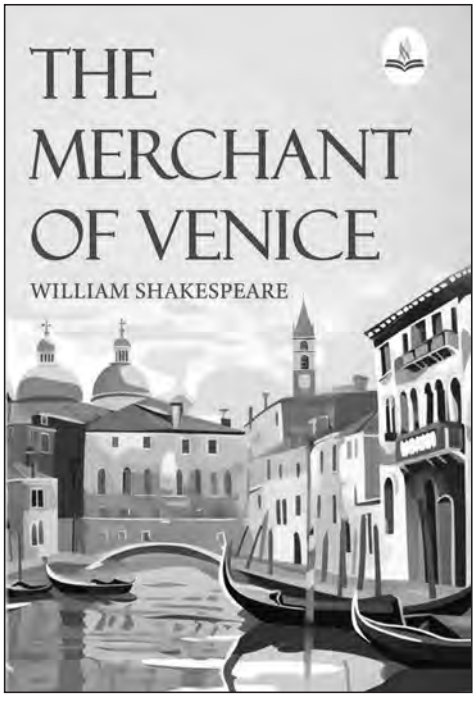
Hemesh U, 1E

Exploring Shylock, "If you prick us, do we not bleed"

In William Shakespeare's The Merchant of Venice, the character of Shylock has stood out as one of the most controversial figures in the playwright's work. Criticized by many as a "villain" —a moneylender obsessed with revenge and bound by a ruthless "bond", Shylock is often dismissed as the antagonist to the "merciful" Christians. Yet, when viewed through a more compassionate frame, we see him not as a mere villain, but as a deeply wounded man shaped by the cruelty of the world around him. His actions, though harsh, arise from the accumulated pain of being mocked, mistreated, and excluded for simply being who he is - a Jew in a deeply prejudiced society.

"He Hath disgraced me, and hindered me half a million;
Laughed at my losses, mocked at my gains,
scorned my nation, thwarted my bargains,
cooled my friends, heated mine enemies;
and whats his reason? I am a Jew"

From the very beginning of the play, Shylock is shown as someone trapped by the limitations imposed on him by a Christian-dominated Venice. We must understand that 16th Century Venice was a highly Anti Sematic state at the time due to multiple factors, one of them being Jews lending money on interest (Which was against the Christian beliefs). Antonio admits openly to throwing insults and even physically abusing Shylock in public, and yet expects him to lend money without interest or hesitation. Such hypocrisy forms the foundation upon which Shylock's character must be understood. He is denied of his dignity or equality, and is awarded with ridicules and insults. In a society where the dominant class denies him even basic respect, his insistence on the bond can be interpreted as a desperate attempt to reclaim control, however dark or extreme it may seem.



"I have sworn an oath that I will have my bond.
Thou call'dst me dog before thou hadst a cause;
But, since I am a dog, beware my fangs"

This is not to say that Shylock's desire for a pound of flesh is morally justified. It is, on the surface, an act of revenge. But revenge itself is not born in a vacuum—it is often because of long-standing injustice. When Shylock declares

"The villainy you teach me I will execute,"

he exposes his recurring nature of hatred. He is slowly becoming what society has forced upon him. His severity reflects the brutality of the Christians who boast about their compassion, yet deny it to a person they have repeatedly harmed.

"You knew none so well, none so well as you, of my daughter's flight"

Lets not forget the emotional turmoil Shylock endures in his personal life either. His daughter Jessica, whom he deeply loves,

elopes with a Christian, Lorenzo, and she also steals a large portion of his wealth. To Shylock, this betrayal is not just the loss of family or money—it's a complete collapse of the world he has tried to hold together amid societal scorn. He just saw his daughter-his entire world, just steal his wealth and elope with a Christian. Jessica's departure is symbolic of how even within his own household, the external pressures of discrimination have seeped in, leaving him truly alone. The play presents this abandonment as mockery, but for Shylock, it is a more profound loss in his lifetime.

"The pound of flesh, which I demand of him,
Is dearly bought; 'tis mine and I will have it.
If you deny me, fie upon your law!"

The trial scene, perhaps the most pivotal moment in the play, lays bare the systemic bias that governs Venice. When Shylock insists on the bond, he is not asking for special privilege; he is asking for the law to be honored.

"Shall I nor have barely my principle?"

Ironically, when the legal system is turned against him, he is stripped not only of his money but also of his faith, where he is forced to convert to Christianity. This forced conversion, often brushed aside, is a deep violation of identity and conscience. In a time when belief was deeply connected to a person's spirit, this punishment may be viewed as a kind of spiritual death. The Christians who promote mercy, display none when they are in a position of authority. Shylock receives no true kindness, only degradation masquerading as mercy.

"On What compulsion must I (be merciful)? tell me that"

In today's world, Shylock's story resonates even more powerfully. He represents the many who are pushed to the margins, demonized for their identity, and then judged harshly when they react to that

oppression. His portrayal challenges us to examine how easily society manufactures its own villains—and how often we ignore the pain that fuels their actions.

"If a Jew wrong a Christian, what is his humility? Revenge:

if a Christian wrong a Jew, what should his

sufferance be by Christian example? Why, revenge.

The villainy you teach me, I will execute;

Ultimately, Shylock is not simply a man obsessed with revenge. He is a symbol of wounded dignity, a reflection of the injustice borne by many who are denied the right to belong.

Maybe next time, before calling someone an "antagonist" or a "villain", let us try to understand the circumstances they had to face to be in such a tight spot. It's easy to criticize someone, but it takes courage to understand someone and treat them humanly.

Also check out "The Tragedie of Macbeth" another play by the Bard of Avon, filled with complex characters and a nerve chilling story.

Dhiraj S, 2 H

All That She Could Do

A fire lit one day,
She did not know
What it was.
But only that it was here to stay.

She fuelled it,
And it grew brighter and brighter,
Swaying with her thoughts and her dreams.

A long while later,
The fire slowed,
Slowed but did not cease,
It gave her a sign.

A sign to pause,
And to look around.
So she did,
And beheld what she built.

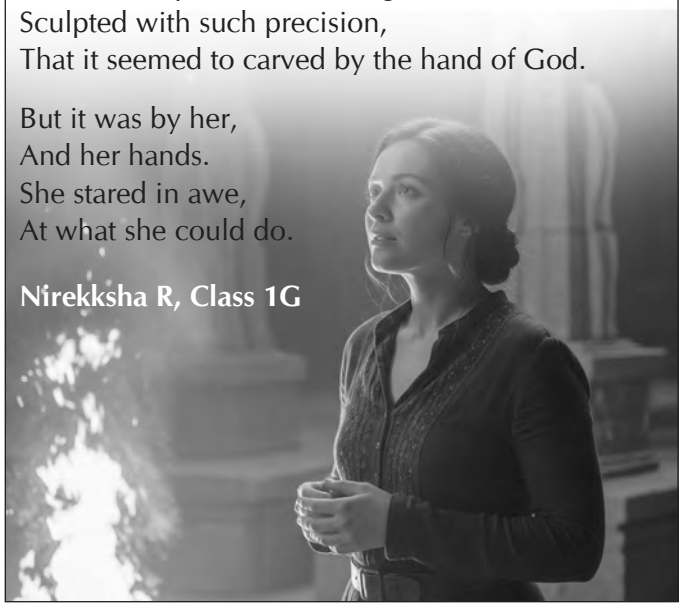
So far,
She had come so far.
But could only see,
Nothing.

The fire stilled,
And then smiled,
Left behind ashes,
And only then did she see it.

What she had built,
It was exactly as she had imagined it.
Sculpted with such precision,
That it seemed to carved by the hand of God.

But it was by her,
And her hands.
She stared in awe,
At what she could do.

Nirekksha R, Class 1G



Boughs that Hold Boundless Dreams

I dedicate this poem to all my teachers who made me what I am today and inspired me to be the best version of myself. This poem is also a tribute to my class teacher and beloved chemistry teacher who passed away earlier this year.

The blossoms catch the light
Showers of pink tinted gold
Flowers that were asleep last night
Now finally ready to behold
Fragile dewdrops embrace them
They are still new, still small,
But never forgotten from whence they come,
Why they stand so tall.
The skies beckon from up above
With glowing hands of a million beams
But little flowers look down with love
At what's holding them up to boundless dreams.
And embrace the arms of the tree
Rough outside, tender within
But it slips, one bough slips free
Lost to where the next tale begins
And blossoms look to the empty part
To the boughs just so slightly quieter
And as thousands hold a single heart
Embrace the boughs to make them lighter
And hope one day
Like the tree they can rise
And dance and sway
As they take to the skies.

Sharada Hemmige Arun, 1I

Betrayal

Life had evolved over millions of years, and finally, nature seemed to have created a being that was almost perfect. The humans: they could build their own settlements, grow their own food; and, except for the fact that they still depended on nature for oxygen, they had left the ecosystem. Nature was truly proud of her achievement.

Then came a flaw. A single drawback that nullified all the achievements and intelligence of mankind. It was the mobile phone. Man had dug up his own grave so well that in less than a decade nearly every single human being was arrested in his or her own 'cell' phone.

Nature knew she was the boss of all life on the planet. Her rule for humans was that they were social animals, and had to interact with each other regularly. Yet, humans would rather stick to their phones and ipads than talk to each other. How could any life disobey her rules? Sure, humans had nearly left the ecosystem, but she was still the humans' mother, their creator, the one that had given them everything.

Soon, nature started realizing that an object less than half a foot long was overpowering her. People would sit at home on their phones all day long rather than step out and enjoy the fresh air she offered them. When they felt hungry, they opened a food delivery app and ordered whatever they wanted. "Humans are meant to walk and run, not sit and stare at screens all day!" nature thought in despair. "How are you going to reproduce and keep your kind alive?"

Man was ready with a curt answer. "I have dating apps in which I can view thousands of potential mates and pick one of my liking. Don't be so overbearing, Ma."

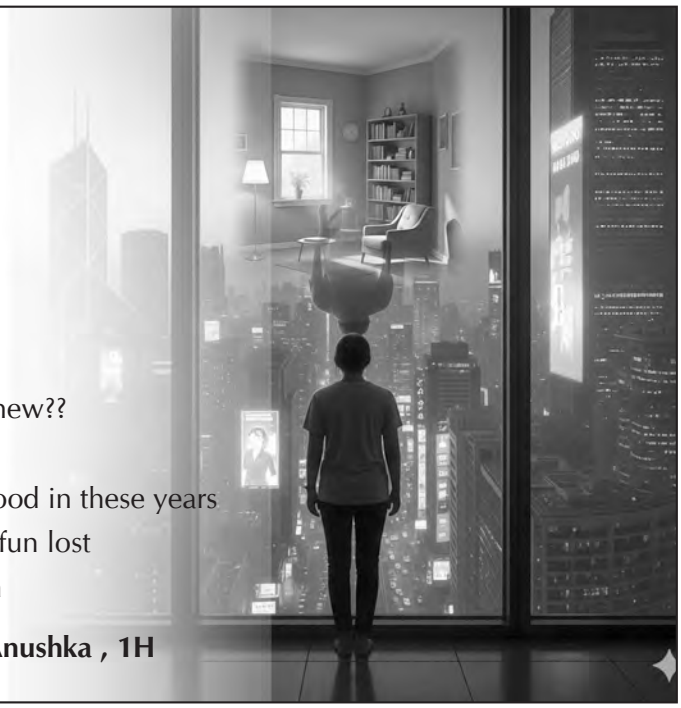
Nature smiled, but on the inside, she could not believe her ears. She could not help but think: Should she give up on man? Was her 'perfect creature' a failure? Should she start afresh?

Her brow wrinkled. "I'm really proud of your technology, son. Why don't you make invincible atomic weapons that can destroy cities? I'll give you plenty of uranium." Man had betrayed nature. She was going to betray him too.

Anjali Ambarish, IC

Familiarity

The one thing that made me , me
Never knew that it was something I wanted
Till I knew it's something I no longer had
I knew the city , the people , the place I call home
With the blink of an eye , I am somewhere new
I want the comfort back, the ones I had in the past
People new , places new , should I become someone new??
I want to go back , but I don't see myself back
This will be me for the next few years , I want to see good in these years
The sense of familiarity is gone , all the memories and fun lost
Hope I get familiar soon , before I lose myself too soon



S S Sai Anushka , 1H

Hardwork

Everyday is a new learning
Every learning is a new earning
You don't fail when you can't succeed
You fail when you let the failure flow

The sun sets every evening
Yet it rises bright again in the morning
Why do we let failures take away the shine?
Shine of success is so divine

A ray of hope
Positivity up the rope
Will get you to the top
When success shall henceforth pop

The bulb couldn't be made in 1000 ways
Yet to find the one way we need to work hard

Treat your life like an experiment
The failure are the steps
And success, the result of working towards
BETTERMENT!!!

Bhargavi SK, 2E

My Only Mistake

I was tiny, innocent and filled with joy
With my mom's womb as my toy.
I felt her love, care and affection
I was sure that wasn't a hallucination .
I was excited to see her, my father and the world
But my gender made the world's humanity blurred.

My gender was my only mistake
Little did I know that my punishment would be forsake.
I wanted to play, laugh, learn and grow
Print the sand with my little toe
But everyone thought I was their little foe
And shunned me with hearts as cold as snow.

I neither saw my parents nor the world
But the desire to see them always squirreled.
I got hatred as my gift
What did I do which made you so miffed.
I too have the right to laugh, live and lead
But my rights were snatched and I was left to bleed.

My story ended before it could start
I was unwanted so I was made to depart.
My soul was never given a chance
My gender decided my life's expanse.
I was sent to an unreachable realm
By closing my eyes even before I opened them.

Disha Shripad Agnihotri, 1F

From Chalk to Chat GPT: How Learning Has Changed (and What Shouldn't Change)

At one time, the quiet classroom was filled with the smell of chalk dust floating. Long rows of rules were struck underneath neatly handwritten notes, expressed in colored ink that was a student's most treasured thing. Teachers stood before the blackboards where they put their wisdom on, drawing it out from silence.

Than any chalkboard ever got, today a screen glows brighter. Notes giggle up in cloud drives; answers arrive in seconds. And AI tools like ChatGPT can be found everywhere and has become as common as our WhatsApp app. With its ability to think and react faster than ever before, our learning environment is increasingly digital.

Yes, the way we learn has changed. But should everything change?

From Chalkboards to Chatbots: The Evolution

From chalk to touchscreens, dictionaries to Google, encyclopedias to YouTube - education has evolved at lightning speed. Technology is changing so fast today that it could almost be said one day's hardware is outmoded the next. With a tap on the screen, anything and everything is available for anyone of any age to study. From tutorials to lectures, quizzes and discussion forums - education has gone global and it is mobile too.

Lectures can be experienced online again. Problems can be resolved instantly. Group discussion is done through an app; homework is handed in with a click of the mouse. For example, taking attendance has become digital now. It's an era when you can deny the efficiency of it.

Only the tools have changed, however, true purpose of education remains the same, Not only to teach memory but to shape minds. Learning is more than cold facts. It is about not only the connection between these facts, but also how we think about them, question them, create out of them, and finally even evolve using them.

The Temptation of Speed

With ChatGPT and its replicates, learning is now quicker— but does it also lead to more depth?

In today's on-demand age of answers, essays can be dictated by the second. Summaries of books no longer need bookish learning; problem-solving apps not only provide students with a full answer without having to read a textbook first-hand, but their user's kind smiles and shaking heads make it easier than ever for them to receive such wisdom online. The process of true understanding occurs slowly and is often a little difficult, but whenever it clicks, the whole thing just becomes simple. A student who struggles with a difficult math problem might not recall the formula but will not forget how much patience and tenacity were needed. That lesson will never be lost. When I depend entirely on technology and not myself to learn, I am merely a receiver of information. I do not generate knowledge. Technology should be used as an aid in learning, not something that bypasses the process of thinking. In this way, we won't merely wind up as consumers of information but will remain the creators.

As Bill Gates wisely put it,

"Technology is just a tool. In terms of getting the kids working together and motivating them, the teacher is the most important."

-Bill Gates

What Must Not Change with the Times:

Teachers as mentors : An electronic screen may teach you how, but only teachers can impart its significance. Their patience, insight, and human ethic cannot be copied. Teachers do not just train, they stimulate. They feel confusion in quietness, guide during frustration, believe in students when they have stopped believing in themselves.

The value of effort: Struggling to figure something out depends on diligence, concentration, and real understanding. Fast solutions are all right for a while, but slow learning builds wisdom. It is every night's late revision, every page rewritten, every concept gone over again, that is where growth comes true.

Curiosity over shortcuts : Curiosity is the mother of invention. If we turn it into mere dependence on quick fixes, we lose our ability to think for ourselves. Curiosity leads to exploration, and exploration leads to discoveries which no app can predict. Just like newton's discovery.

The human connection : There is no app that can replace the moment a teacher sees that you are confused and smiles to clear it up. Learning feels personal, human, and alive in those moments.

A Balanced Future : There is no war between old-school and new-school learning. You can get the best of both worlds.

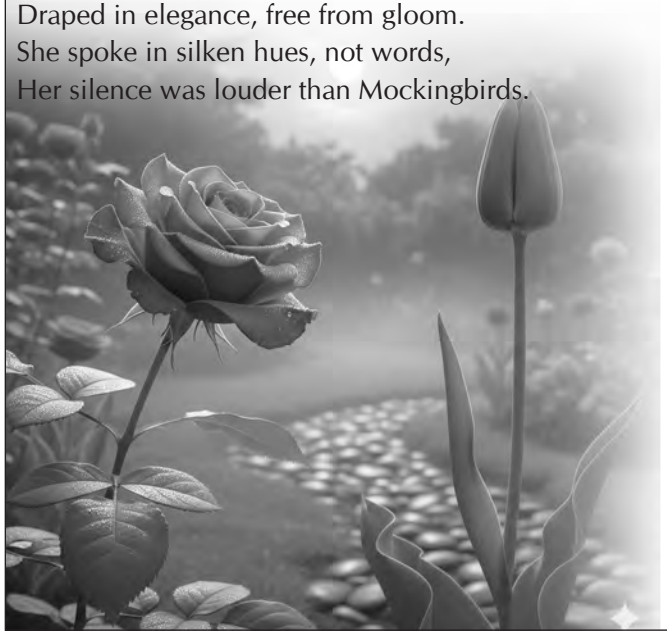
We can honor the past by using chalkboards, textbooks, and face-to-face learning, and we can also embrace the present by using interactive tools, digital libraries, and even AI. Not one side will win the future, only those who can balance tradition and new ideas will.

Shravya Kulkarni,1F

In the garden of quiet things

A rose blushed red beneath the moonlight's gaze,
Whispering secrets only the wind could phrase.
Petals curled like shy smiles at dawn,
Each one was a sign that beauty had drawn.

The tulip stood tall, proud in its bloom,
Draped in elegance, free from gloom.
She spoke in silken hues, not words,
Her silence was louder than Mockingbirds.



Beauty, like Portia, quiet and true,
Hid behind things that wealth couldn't do.
Bassanio chose not gold or show-
He followed what felt right to know.
Real beauty does not scream or shine,
It speaks soft truths, like yours and mine.

If you've got a problem, talk to me,
Don't toss it into the air and flee.
If you can't speak, then let it be-
'Cause silence means it's not on me.
And what of silence between two souls?
A field once wild, now riddled with holes.
No thunder, no rain - just air too still,
Like flowers waiting on a windowsill.

Silence is where the brave thinks grow,
Like flowers pushing from below.
No one sees the weight they carry-
They just bloom- brighter than ever before.

Rashmi M Kabadi, 2H

India's Birds of Glory

Skyborn: India's Indigenous Fighter Legacy:

Fighter jets are more than machines that tear through the sky — they are the roaring voice of a nation's strength, skill, and ambition. For decades, India patrolled its skies in foreign-built jets, powerful yet distant — a reminder of how far we still had to go.

But beneath those roaring engines, a quiet dream was taking shape: to one day fly aircraft born not in foreign factories, but on Indian soil.

That dream gained thrust in 1983 with the launch of India's indigenous fighter jet program. Backed by the Indian government and led by DRDO, the Light Combat Aircraft (LCA) project was born — a bold move to replace the aging MiG-21s and push India toward aerospace self-reliance.

But the journey began even earlier. In the 1960s, India shocked the world with the HAL HF-24 Marut — Asia's first indigenously built fighter jet to enter service. Designed by German engineer Kurt Tank, the Marut was subsonic but symbolically supersonic — a bold statement that India's aerospace future had already begun to take shape.

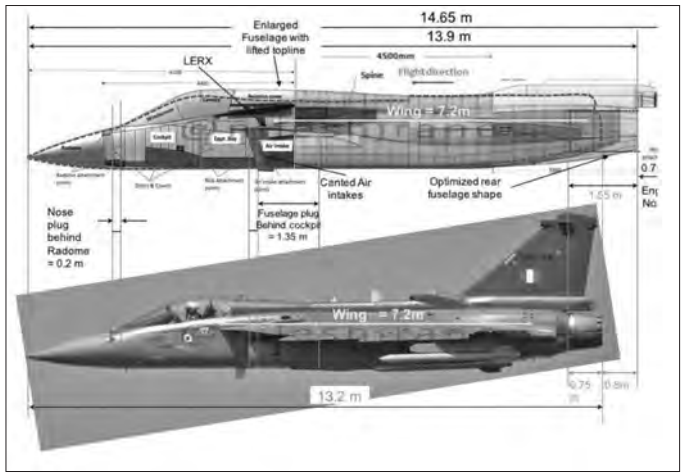
What started as a single project has now evolved into a national movement — one that's propelling India toward cutting-edge platforms like the fifth-generation stealth AMCA.

Today, as afterburners roar over test ranges, their thunder is more than sound — it's a signal. A signal that India is no longer just buying flight — it's building it.

Tejas: The Jet That Taught India How to Soar

When Tejas roared into Indian Air Force service in 2016, it wasn't just a jet—it was India's declaration of aerial independence. Developed over two decades at a cost of ₹14,033 crore (~USD 1.6 billion), this 4.5-generation marvel isn't just a machine; it's a milestone of self-reliance and engineering grit.

Picture this: Sulur Air Force Station, golden hour. A grey silhouette waits on the tarmac. The GE F404-IN20 engine screams to life—5,600 kgf of thrust launching it to Mach 1.6. The pilot feels +8 g slam back into the seat as the aircraft climbs skyward. Underneath its sleek skin lies a 13.5-ton machine with a 3,000 km combat radius and the capability to dominate both Himalayan peaks and oceanic borders.



Armed with nine hardpoints, Tejas carries a lethal arsenal—from indigenous Astra missiles to Israeli smart bombs, and soon, a variant of the supersonic BrahMos. Mid-air refueling, digital flight control systems, and mission computers turn it into a flying brain with reflexes.

Each variant marks a step forward:

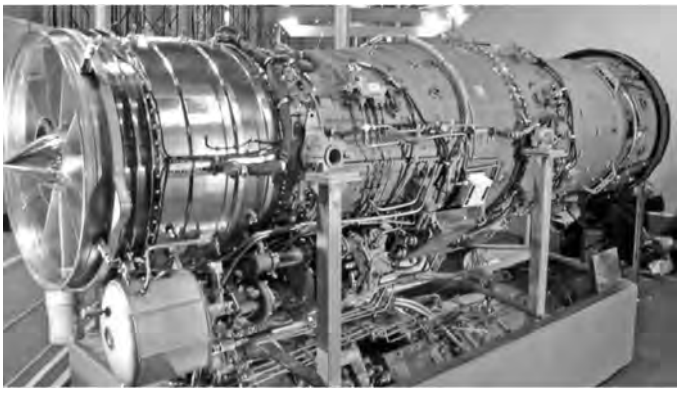
- Mk 1 features ELTA's EL/M-2032 radar.
- Mk 1A upgrades to the EL/M-2052 AESA system.
- Mk 2 will carry India's very own Uttam AESA radar.

Add a delta wing design inspired by the Gripen and Su-27, and you get stunning agility. With LEVCONs (Leading Edge Vortex Controllers), Tejas dances at low speeds—pulling barrel rolls and turns with grace most jets can't match.

But it wasn't an easy takeoff.

The Kaveri engine project fizzled. Bureaucratic delays dragged timelines. What was meant to take 8 years stretched into 30.

Critics called it a failure. Yet engineers refused to give up. ADA coders debugged flight software through sleepless nights. HAL workers shaped composite panels by hand. Every setback forged resilience.



And what emerged wasn't just a fighter—it was a fighter story.

Tejas can now track 50 targets at once and engage four mid-air. It's carrier-capable, combat-tested, and 100% ours.

This is more than a warplane. It's a symbol of what India becomes when it refuses to be grounded. Tejas isn't just made in India. It's made for India.

Indigenous. Invisible. Invincible

India's fifth-generation stealth fighter dream didn't begin with fanfare — it rose from rejection. In the early 2010s, India joined hands with Russia to co-develop a fifth-gen jet, the Su-57 (then PAK FA). But as cracks formed in that partnership, India quietly started crafting its own beast: the Advanced Medium Combat Aircraft (AMCA).

Led by HAL and the Aeronautical Development Agency (ADA), the AMCA wasn't just an upgrade — it was a leap. It aimed to one day replace the IAF's crown jewel, the Su-30MKI, India's customized version of Russia's Flanker-H. Replacing a legend meant building something extraordinary.

After years of conceptual work, one design was finally cleared in 2016. This aircraft wasn't just a jet — it was a statement. With a V-tail, S-shaped diverterless supersonic intakes, radar-absorbent composite materials, and stealth baked into its bones,

the AMCA would be India's answer to the likes of the F-35.

At its core? A souped-up version of India's own Uttam AESA radar, electronic warfare systems, and multi-role capability — from air dominance to precision strikes. It's designed to be a ghost in the sky, nearly invisible to enemy radars, but absolutely invincible in combat.

In 2023, the design phase was officially declared complete. Under Project Horizon 2047, India is now collaborating with France to develop a semi-indigenous engine. Until then, two General Electric F414 engines (each pushing 90kN of thrust) will power the Mark 1.

And it's no slouch — the AMCA is expected to fly at Mach 2.14, climb to 60,000 feet, and deliver strikes from 5,000 kilometers away. With an internal weapons capacity of 3,000 pounds and total payload of 14,000 pounds, it's armed for any mission — especially when carrying Astra missiles and the cruise variant of BrahMos.

Only five prototypes have been ordered initially at a cost of $1.9 billion, but they mark the beginning of something far greater.

India isn't just building a jet. It's forging a future — indigenous, invisible, invincible.

Wings of the Future

These jets are more than machines — they are proof that dreams, when chased with obsession, can take flight. India's fighter jet program didn't start with perfect engines or limitless budgets. It started with belief. Belief that we could defy the odds, engineer the impossible, and fly not just across the skies, but into the future.

Every rivet, every radar, every line of code in Tejas and AMCA screams one message: we don't need to borrow greatness — we can build it.

For every young mind watching a fighter soar across the sky — this is your call. You're not just the future of this country, you're its engine. Push harder. Question more. Fail fast. Rise faster.The next time the world looks up and hears thunder above — they won't just hear a jet. They will hear you.

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Kinshuk K. S., 1C

The Half-Hearted Prince

I laugh too loud, love too soft,
Wait for texts that never pop off.
A hug I never got still lingers,
Like songs trapped in tired fingers.
I want love, not the movie kind,
Just someone who calms my mind.
Not perfect, just real enough
To see the mess and call it love.
But here I am —
Smiling, waiting, staying tough.

Abhinav M G, 1F

My Melodic Hobby

"A hobby a day keeps the doldrums away" says Phyllis Mc Ginley, the famous American author of children's books and poetry. I firmly believe that hobbies enrich our minds and add zest to our living. Singing has been my passion since I was a kid and has stayed with me ever after. Singing has always been the balancing factor in my life and something I turn to when life flatters me or bogs me down sometimes.

During the second wave of the devastating pandemic, I came to truly grasp the importance of having a hobby. While the world reeled under the weight of a merciless virus, many of us found unexpected solace in creative pursuits. Hobbies, often intertwined with various art forms, have a liberating quality—nurturing the spirit and bringing a quiet sense of fulfillment. For me, peace took shape in the recitation of deeply meaningful "vachanas." Purandara Dasa's Thallanisadiru kandya and Akka Mahadevi's Bettada melondu maneya maadi became my anchors—radiating serenity and hope amidst the chaos.

During one of our online catchups, I sang "Main Koi Aisa Geet Gaoon" just for fun—and to my delight, a few friends joined in. Hearing them sing along filled me with joy; it was heartening to know the song had struck a chord with them. In that moment, amidst laughter and melody, we rediscovered a sense of optimism and renewal that felt so needed.

I jammed with my mother (my inherent partner in singing) to drive away the quarantine blues and cheer up our family. In fact, our family looked forward to our karaoke sessions when we would sing film hits not only from the recent movies but also from the yesteryear blockbusters. From Mohammed Rafi's "Main zindagi ka saath nibaatha chalaagaya" to Kailash Kher's "Allah ke bandhe hasde" to S.P Balasubrahmanyam's "Ee Bhoomi bannada buguri"- each song beckoned us to bear, believe, and take life as it comes.

The jamming sessions continue even to this day, and the weekend afternoons are sometimes reserved for the jam.

The light-heartedness and the joy that comes after I sing a song, and the smile on the listener's face convey to me how fulfilling it is to have a hobby. The rewards are evidently priceless.

Aadhya Hiremath, 1E

Don't Lose Hope

The feeling of sorrow and loss of hope
Is often too heavy for us to cope,
Yet still we all continue to lope,
Even when it's tough to climb that slope.
Just like every long, dark night,
That sometimes fills our hearts with fright,
Is always followed by morning light
That brings us peace and pure delight.
The clouds that hover in skies so blue
Sometimes turn a shadowy grey too,
And try to hide the sun's bright hue—
But the big sun breaks right through their crew.
Hard times may come and then they go,
But only if we learn can we truly grow.
Though some may leave us feeling low,
They're often followed by a better glow.
So never give up or stop trying,
Or lose hope and start crying,
Because even in the worst of timing,
There's always a silver lining!

Niharika Ramesh, 2D

New Dimensions

The paths ahead of me were blurry. They both seemed to have the golden light up in the distance. They seemed enticing – a journey to embark on; or would it be multiple journeys? I braced myself for what was about to come as I made my way down one of the paths. Would this be the right choice?

I observed the way she stood, the way her shoulders were slightly slumped. Everyone but her seemed far from solemn. No one noticed the way her eyelids seemed heavier with every breath she took. She gazed into the distance with a white coat on. Her long hair slowly unraveled from the messy bun. She had graduated! She could now be called a doctor. Her smile didn't seem genuine. "Was this what I really wanted?" We were both thinking that. I stayed where I was, while she took two steps forward. I glanced down to find a shiny clip with a leopard print. I hunched down and brought it back, close to my heart.

"Being a doctor is what I've always wanted. With my hard work and dedication and of course my parents' money, I can now finally treat, not just myself, but also people in need." Everyone clapped as they all giggled. She still had the same sense of humour. I clutched onto the hairclip as I saw her beautiful dark hair gaining life in the wind. She didn't need this. Her smile was fading into oblivion as I was being sucked back to reality.

"Being a doctor is what I've always wanted." Her words didn't stick to me. Sure, I was surrounded by books, a water bottle to keep me hydrated and an exam the next day to ace, but I was feeling unsure about this. I had got into the best college to become a doctor. My interest in biology didn't dip in the slightest. My determination was through the roof. I remembered her face. I could see myself in her. I was back at the fork of the two paths, torn on whether to continue with the original expedition I was on, or, take a leap of faith and dive head first into the risks and maybe happiness that the second path could possibly offer. I looked back at the clip I was holding. The leopard print morphed into a bright pink, as it shone like the northern star, guiding me to the light up ahead. I had to pay her a visit too.

I went back to her. She, however, wasn't wearing a white coat or giving a speech. She was on stage surrounded by thousands of people accepting an award for the "Best Author". Her hair was shorter now. Her smile finally felt true. I peered down at the clip I was clutching onto. The room echoed with the audience chanting her name persistently, until she also made a speech. "Being a successful author is what I've always wanted. With my hard work and dedication, and of course pens and paper, I can now write stories for, not only myself, but for you all as well to enjoy." Her sparkly dress was fading into oblivion as I once again returned back to reality.

I truly did want to become a doctor, I really did. But now looking at her smile as an author made me open my book, not filled with diagrams of human anatomy, but with stories I had written. The joy I felt while creating, was something I did not want it to remain a dream. I hoped for it to come true. I lifted my head up to be met with another path right in front of me – this road wasn't forgiving. I could see the gravel rough and ragged, vines ready to get me tangled in the situation I put myself into. I squinted

to see a glimmer of hope, beckoning me to give it a shot. I took a deep breath in, holding both the clips in front of me. The only way a path is crossed is if one dares to take on the challenges that come with it. I wanted to enter a new world where I wore a white coat, had a genuine smile, and treat people to not just my care, but also my tales.

Ashvi Rajesh Rao, IF

Problems are to be solved !

We all have loved solving problems from childhood. We loved solving riddles, puzzles and of course finding ways to get out of trouble. The human brain gets a rush by finding solutions to problems and thrives on complex puzzles. Over time we have invented many things with this ability to analyze a problem and find solutions. Probably the greatest of our inventions has been the computer and we use it to make our problem solving easier !

Problem solving is like planning and executing a mini battle in your head. You have the end goal in mind (win the battle), plan path to goal (strategy) and think of what you need (weapons). For the sake of this write up, let me take an example of an instance I got sucked into coming up with a solution for an interesting problem for human kind.

A few months back I came across an interesting challenge posted called the "NASA space apps challenge". The task was to figure out a way to solve a problem that has been faced by NASA for a very long time, Space Debris flying in low earth orbit. For some reason the challenge kept me thinking of ways to solve this problem over and over.

The Problem: There is tons of space debris moving at 7 times the speed of a bullet in earth's lower orbit.

The Challenge: How do we make space a safe place for our all important satellites and future space missions.

The challenge is not mine ! It is for the brightest minds on earth to solve, right? Well how do you know you are not one? So the flow of thought started. As I went through all the possible ways to reduce the costs, resources and improve the feasibility of my mission, I felt every possible solution was followed by a new problem. This changed my perspective of how I saw problem solving. Every problem is just a set of smaller problems to be solved and put together. You just need to know how to break it into smaller problems that you can wrap your head around.

As a student and someone studying in the science stream, I would start thinking of what larger problem could I be solving with the concept I am learning? If I am solving a trigonometry problem, I could potentially be learning how to predict the angle of the approaching projectile. If I am learning a concept in Physics, I could be learning about a material, its strength and could be best suited to trap the space debris. The current problem to solve is getting good grades but the bigger picture is application of the knowledge gained to solve a larger problem.

'Problem Solving' involves multiple steps such as identifying the problem, brainstorming ideas, research and finally building a solution. It allows me to be creative while finding these solutions. The idea, as wild as it may be, has no boundaries, no limits, just me and my mind that will stop at nothing till I get the job done.

Samarth Mydala, 2E

A Connection Beyond Death

It takes just 9 months to
Form a connection so strong
That lasts for a lifetime and beyond

From sacrificing her body for your birth to
Correcting you when you're wrong
Magically over time she creates a strong bond

She is a wonder woman
Who hides her pain
Just to see you smile

She knows you like know one can
Her sole purpose is to see you aim at life and gain
She's still here if your efforts go futile

She fights against the odds just for you
She loves you regardless of your insensitivity
She deserves all the happiness one yearns

Everything is incomplete without her presence, it's true
She is the reason of our existence in totality
Her forever love and support is what we all yearn

To fulfil our wishes, she goes miles
Great like no other
She gifts you wings to live like a free bird

She disciplines to make you stronger
For her, you're the most precious and important
She embraces the bittersweet motherhood

With flying time, memories we hold onto longer
Her love is never distant
Celebrate her as much as you could

She heals and that's her nature
She carves our identity
In our heart she resides forever

She shields you from danger
She brings the best out of your capability
Her personality is just like a beautiful flower

She passes on her strong values
Her words of wisdom shapes our perspective
She's our better half

Her warmth touch never to lose
Her loving eyes, warm hugs, thoughts very reflective
Always hide her pain behind a laugh

A mother is a woman who empowers and leads us with love
She carried us before birth and
Kept us in her heart till and beyond life

She is the nourisher, the light of our lives
She is a mother
She is the world.

Sindu S Iyer, 1F

Shakespeare's Legacy in Education: Why We Still Read Him

Even after 4 centuries, William Shakespeare remains to be one of the finest playwrights in history. Born in 1564 in England, he wrote wonderful plays and poems that people still read and perform all over the world. His stories cover themes like love, jealousy, power and betrayal that even centuries later, touch the hearts of people all over the world. They continue to remain as a source of inspiration for people. But why do we continue to read and study Shakespeare in today's modern world? What is it about his plays and poems that has made them an important part of education? Let us now look at a few reasons why Shakespeare's work remains so relevant.

1. Shakespeare's Themes:

Shakespeare's stories deal with big ideas that everyone can relate to, no matter where they live. His plays cover topics like love, jealousy, ambition, betrayal, and what it means to be human. For example, Romeo and Juliet, tells the story of two lovers torn apart by family conflict, while Macbeth tells us how ambition can lead to tragedy. These themes are just as relevant today as they were centuries ago, making them relatable and valuable for teaching students about human emotions.

2. Shakespeare's Characters:

The themes covered in the plays are universal, but the relatability of the characters is even more impressive. It is not difficult for people to see themselves reflected in at least one character in any given Shakespeare play, even though they were written centuries ago. His characters are beloved, despised, laughed at and most importantly remembered for their relatability. Shakespeare grew up in poverty as the son of a shoemaker and a previously noble woman. His childhood experiences made him include common people in his plays, such as the mechanicals Bottom and Quince in "A Midsummer Night's Dream" and Rosencrantz and Guildenstern in "Hamlet."

3. Shakespeare's impact on theatre:

For many modern actors, acting in the main role in a Shakespeare production is an impressive achievement. The Globe Theatre, the Elizabethan playhouse for which he produced his plays, is still an important part of London's rich cultural history. Watching a Shakespeare play live on stage is an experience like no other. It is an experience that one should never miss out on.

4. Shakespeare's impact on Language:

Shakespeare's language is complex. He created approximately 7,000 new words for his plays; so, there is no shock that his writing would be difficult to read. However, it is because of what he did with his words that makes his work appealing to readers and so much more important for students to read.

Conclusion:

Personally, I feel like I wouldn't have been able to write this article if I didn't read his plays. They helped me develop a new perspective on how communication worked centuries ago and how people were keen on developing their language. Reading his plays has really given me the confidence to speak up in front of an open crowd and indulge in conversations where I would have felt insecure about my vocabulary. In the 21st century, there are very few people who appreciate his work and understand how significant and revolutionary it has been in communication. I can confidently say that his plays will help everyone in learning something useful. It is because of these reasons that Shakespeare's work is so influential in the education system. Thank you.

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P Vishrutha, IA

The Mudhol Hound – Karnataka's Royal Dog and Symbol of Heritage

When we talk about dog breeds, most people immediately think of foreign names like the Labrador, Golden Retriever, or German Shepherd. But how many of us actually know about the Indian dog breeds that are just as loyal, strong, and special? One of the finest examples of India's native dog breeds is the Mudhol Hound. It's not just a pet — it's a living piece of Karnataka's history. The Mudhol Hound, also known as the Caravan Hound, is originally from Mudhol, a town in the Bagalkot district of northern Karnataka. This breed has a very long and proud history. It was developed and perfected by the Ghorpade royal family of Mudhol, especially by Sri Shrimant Raja Malojirao Ghorpade, who was passionate about dog breeding. He noticed that local tribes and shepherd communities were using tall, lean dogs for guarding and hunting. The Raja started selectively breeding these dogs to improve their speed, stamina, and hunting instincts. What makes the Mudhol Hound stand out is its elegant appearance and athletic body. It has a long, narrow face, deep chest, and powerful legs. Its ears are usually folded back, and its eyes have a sharp, intelligent look. The coat is short and comes in various colors like fawn, brindle, black, or white. These features are not just for show — they are what make the Mudhol Hound such an excellent hunter and guard dog.

Historically, the Mudhol Hound was mainly used for hunting deer, boar, and even smaller wild animals. It has excellent eyesight and is one of the few Indian sighthound breeds, meaning it hunts based on vision rather than smell. The breed can run extremely fast and for long distances without getting tired, making it perfect for chasing prey on open land. The Mudhol Hound is not only a hunter but also a symbol of royalty and pride. One of the most important moments in its history came when Raja Malojirao Ghorpade gifted a pair of these dogs

to King George V of England in the early 1900s. The British king was so impressed that the breed gained recognition even in the West. This moment made the Mudhol Hound not just a local dog, but a national treasure. In recent years, the Indian Army has started using Mudhol Hounds for security and surveillance duties, especially along India's borders. These dogs are being trained to sniff out explosives and protect soldiers, showing that native breeds are just as capable as foreign ones. The Canine Research and Information Centre (CRIC) in Mudhol has also been working hard to conserve and promote this breed, making sure it doesn't go extinct like many other native animals.

The connection between the Mudhol Hound and the place Mudhol is very deep. For locals, the breed is more than just an animal — it is part of their identity. Many farmers and shepherds in northern Karnataka still raise these hounds for protection and companionship. There's even a statue of the Mudhol Hound in Mudhol town, showing the pride people have for this breed. In conclusion, the Mudhol Hound is not just a dog — it is a symbol of Karnataka's culture, strength, and legacy. It represents the intelligence and courage of the region's people, their respect for animals, and their royal past. As students and future citizens of India, we should take more interest in learning about our own native species and help preserve them. The Mudhol Hound teaches us that India doesn't need to look outside for greatness — we've had it all along, even in the form of a loyal, elegant dog.

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Sanvi Vantmuri, 2F

Her Haze and Thunder

Mother!
You are a warrior,
Whether it's the horrifying dreams or father,
You have always been a saviour.

You are tender like a feather,
Sometimes like the harsh weather.
Love ranging from drifting softly in our lives,
To winds rising when we cross the line.
From wraps warm like morning sunlight,
To fury cracks like thunder at time,
Her eyes may blaze,
But her love surrounds in tender haze,
Still, we cling to her forever.

Through all the highs and lows,
You've been the heartbeat by our side,
And your love makes the heavenly home in which we reside.

Her scold may sting,
But her love is the best song you could ever sing.

Tanushri K M, 1H

THE SECLUDED

SUBJECT : A poem expressing the emotions and hardships of a secluded student.

Srihari M J, 2G

I woke up at the stroke of twelve
With a rumination haunting my dwell
I looked up at the chandelier lustre
Pondering without a bluster.

Was that all my own fumble?
Or a reward for being humble
To be the one who is detested
Was not the reap I requested

In the middle of a chaotic class
I sat alone beside the glass
Had I been invited to the chatter
To explore the juvenile prattle

All that I desired was solace
Which felt like an endless race
What could make me proud?
In front of this defiant crowd

I heard my voice in the solitude
Which was mocked by a multitude
I preferred the beautiful silence
When the world opted for violence

The walls of the class know me well
As they accompanied my silent wail
I cleared my vision of the haze
Only to slip back into a daze

I held within the eyes my tears
Loaded with numerous fears
In the crowd I stood alone
Learning everything on my own

The chaos faded as I entered
Which had my glee interred
Every corner felt like a tide
Which propelled me aside

Across the raucous city I strolled
With a gush of fear making me cold
I dreamt a version of me bright
In the tenebrous sky of night

These thoughts had me flustered
With ample of emotions clustered
I sat alone when the city slept
Imploring a change they accept

Transitions

Once upon a daisy day, the sun at its brightest,
Came out a sapling, crying and wriggling its legs and hands,
From a peaceful and a warm world of the kindest,
Into a world full of questions, challenges and ruling brands!

It was unknown of the intelligence and big mansions,
Still innocent, still gentle, remaining the same.
But truly, as nature includes transitions,
It would never remain the same.

From playing with toys, to playing games with friends,
From learning the alphabet, to solving a tricky equation,
From buying a small candy, to booking a railway ticket,
Oh! How is it possible? Magic or transition?

Slowly, learning everything, but a fast-running time,
Slowly tries to squeeze through the true reality of this world;
"Oh time! How much can I pay you? A dime?",
Everyone asks, but it never stops from being whirled.

Suddenly and suddenly, a blink of an eye,
One wakes up and realizes it's the last day of school,
And for once, takes the bag with a sigh,
All the fun with friends, now memories captured by the eye!

Once, they were fed with a spoon, with love,
Now responsibilities, that never end, uncountable!
Each one, trying to fit their hand in the new glove,
So many transitions in this world, it's unimaginable!

Not only us, not only the living,
Even the pencil to write, the candle to light,
Even the thread used for sieving,
Even they change, just within a sight.

This is how life is! For every new event to occur,
An old one will be washed out,
And we must adapt to these, as life doesn't recur,
They are like the river, always running about!

And finally, after many seasons, with lots of memories,
Buried deep down, the life slowly fades,
There is peace, as the beating stops, and a new beginning!
But the beauty of transition is that it never stops!!

Tanya B. Kashyap, 1J

Why reading is a dying hobby amidst the youth of the world now? And even when they do read, is it for the aesthetics or is it for yourself?

Words join together to form sentences. Sentences are strung together to make a story. The stories come into the world through publishers. Days were old, when books, paperbacks especially were a rarity. People ran across their town looking for bookstores, which were also scarce, to find one copy of a book that they'd heard about. Passion for the words, intrigue for the journey that it would take them into, and honor for all the authors.

The world never seemed to get tired of reading. They just wanted more. So, the planet gave the people more. But, instead, when there were more printing presses than one could count, two bookstores in every area and an increasing number of novelists, the people changed. The readers weren't the same. The kids didn't enjoy the same books as their parents had in their childhood anymore. They enjoyed Lululemon instead of magical fairies and enchanted forests. Youtube before bed replaced a bedtime story. Why did this happen?

Where did the love for the language disappear to? No one was running to get their copies before it sold out, nobody was excited when a new book from their favorite author was coming out, the art of reading became odd.

The shift in the verbiage was also overwhelming. Gone are the days when Jane Austen wrote in length about one singular ball evening, and Dickinson's descriptions in his novels, seem dead now. Contemporary, modern, refined, they call it. This new style of writing that seems to dilute every feeling to nothing. Boring, insipid and worthless, is what I call it.

When you read books, it was considered productive. It was considered to be more of a "chore" than leisure. Since when did diving deep into a fictional world become boring and not exciting? Whenever so this drastic change had taken place universally, I somehow stayed the same. My brain did not want to stop reading.

Even when people do read nowadays, can do they do without posting about it? Can they simple enjoy the book in its all without carrying it around performatively. Like they're on a stage, and there's an audience watching your every move. Not once do they realise, that if they might just put their cameras down, open their eyes and look at the book, really look at it, they might just feel something like hope. Not the emptiness they feel when they post about it.

Reading is to feel, to live, to laugh, to cry, to hurt, to feel pain and feel joy for someone who isn't real. The fact that there are people out there actively putting out their creativity for other people to indulge into should be appreciated greatly. I would pay my soul to read them, if not a few rupees. Such an underrated yet moving gesture to bring all the people around the world joy.

Perhaps I am being too vague on this, but a singular article to talk about this matter might not suffice. Reading is a dying hobby in desperate need of reviving, sooner than later, especially among the youth. If anything, the people reading this, should maybe finish it and go pick up a book. You might just end up loving it.

A.Charvi, 1I

X-Factor:
Your Superpower in a Crowd Full of Smart People

In a world where academic excellence is highly celebrated, marks still remain one of the most valuable indicators of a student's consistency, discipline, and dedication. They reflect the hard work and determination we put into mastering subjects, staying committed to deadlines, and pushing through pressure. From securing admissions to landing into your dream college streams, strong academic performance often acts as the ticket that gets you through the first door. It's not just about numbers, it's a testament to how serious we are about our growth and goals.

But once you've entered that room full of brilliant, high-achieving individuals, what sets you apart? When every other student in the room also has a 98%, fluent academic language, and a decorated report card, what makes someone truly memorable? That's where your X-Factor comes in.

We're part of a generation where being smart is no longer rare - it's expected. Almost everyone is studying hard, acing tests, and topping charts. In this competitive crowd, marks alone, though extremely important, are no longer enough to make you stand out. This doesn't mean that marks don't matter, they absolutely do, but what we're saying is, the real game begins after you've met the academic benchmark. The spotlight doesn't always shine on the one with the highest marks, but on the one who brings something extra to the table - something different. And that "extra" is what we call the X-Factor.

The X-Factor is your secret ingredient. It's not found in textbooks or exam sheets, but in the way you speak, think, and present yourself. It could be your confidence, your creativity, your leadership, or your emotional intelligence. It's that quality that makes people stop and say, "This person is different!" For instance, you might not be the fastest at solving math problems, but if you can simplify a difficult concept for your peers effortlessly, that's X-Factor. You may not always be on stage receiving academic awards, but if you can walk into a room and light it up with your energy, that counts just as much.

Let's say two students apply for the same internship. Both have a 96%. But one of them has hosted events, volunteered, knows how to communicate effectively, and is confident in a team setting. The other has purely focused on academics. Who do you think the recruiter remembers more? It's not a competition between marks and skills, it's about how skills can complement marks and take you further. In real-world situations, you're evaluated for more than your scores. How you carry yourself, how you solve problems on the spot, how well you adapt, lead, and express yourself, all of these matter. The world outside the classroom values not just how much you know, but how well you can apply it.

The best part? X-Factor isn't something you're born with, it's something you can build. Participate in college events, take initiative, speak up, explore your interests, lead projects, build your confidence. Learn how to communicate. Learn how to think beyond what's printed in black and white. And most importantly, learn how to be you, authentically and unapologetically. Whether it's writing, photography, coding, public speaking, or organizing events, your interests and efforts outside academics shape your X-Factor.

In a world where AI can write essays, solve problems, and even conduct interviews, the one thing that will always remain uniquely yours is your human spark - your ideas, your passion, your personal touch. While marks give you credibility, it's the X-Factor that makes you unforgettable. And the combination of both? That's what makes you unstoppable.

So yes, study hard. Make your grades count. Let your marks speak for your dedication. But also take time to develop the skills that make you you. Because one day, when you walk into a room full of smart people, it won't just be your grades they'll notice, it'll be the way you carry them.

Shreeya A, 1J

You Will Never Do Anything Remarkable

In the early 1800s, a Chinese woman working in a brothel changed her fate by marrying pirate leader Zheng Yi. Together, they expanded his fleet from 200 ships to around 1,800, commanding some 70,000 pirates. After Zheng Yi's death in 1807, his widow—Ching Shih—took over.She led one of the largest naval forces of the time and ran it with strict discipline. Surprisingly, her pirate empire needed accountants; loot had to be logged before being shared. And disobedience? You could leave—just not with your head.She wandered about from Canton to Macau, beating up the Chinese, British, Portuguese and everyone else -until finally the government offered her and her pirates amnesty, which is a bit like if you stole everyone's kettles, and they responded by inviting you over for a cup of tea. With her influence waning, Ching Shih agreed to the offer. The fleet disbanded, many of her pirates got well-paying official jobs, and she kept her wealth. She was even granted a noble title and retired comfortably, running a gambling house.

Be clever, be a pirate, kill people, chill? I guess?

Then again, there are plenty of great humans who weren't necessarily unusual or eccentric – they were just doing the right thing, or trying to – again, unlike... You

Sergei Korolev was a key architect of space exploration. In 1933, he launched the USSR's first liquid-fuel rocket—and was rewarded with a harsh prison sentence and time in the Gulag. Somehow, he survived. After his release, he became the mastermind behind major space milestones: the first satellite, the first animal in orbit, and on April 12, 1961, the first human in space—Yuri Gagarin, who orbited Earth for 108 minutes aboard Vostok 1.Korolev died in 1966, likely due to injuries from his imprisonment. His identity remained classified during his life, and even now, he's often overlooked outside scientific circles. Yet his impact endures. A portrait of him now hangs in the International Space Station, circling the planet he once helped humanity rise above.That was the first time we truly reached beyond our world. And that leap, as incredible as it was, came from the mind of a man the world almost destroyed and still doesn't fully remember. And if, by some miracle, our species emerges from its current adolescence, there is every chance Sergei Korolev's portrait will one day accompany astronauts to corners of the heavens Korolev couldn't have imagined even in his wildest dreams.

So, in light of all this, what makes a great person of history? None of them are you because you will never do anything remarkable with your life.

Let's whip up a recipe for success. Start with two "perfect-parents" eggs, mix in two cups of "right-place-right-time" sugar, and stir in three cups of natural talent flour. Finally, add two and a half teaspoons of greatness.

Wait—where is greatness? Not in the cupboard? Oh… right. We're out. Because it doesn't exist.

For the longest time, I was convinced the world was split into two groups: those who had it all figured out—the Life Professionals—and then people like me: idiots bumbling from one half-baked plan to another, never quite landing anywhere solid. Now that adulthood is spitting distance away I've realised that this model is bollocks because these people do not exist.

When it comes to matters of the soul, it is open season. And that's the beautiful part: when it comes to creativity and innovation, the world is deliciously chaotic. There's no central authority, no fixed blueprint. If you've ever told yourself not to bother chasing something bold or new because "someone else will definitely do it better," remember this—the people you look up to? They felt that too.They didn't know they were legends. They were just flawed, persistent people who didn't cave to the voices telling them to give up.

That confusion you're feeling? It's not some

unfortunate byproduct of trying to make meaningful work—it is the cost of entry.

We often forget: Van Gogh didn't paint seriously until 27. Darwin called himself "a very ordinary boy." Emily Dickinson was overlooked in her lifetime, and Moby-Dick sat unread for decades. These now-revered figures battled rejection, doubt, and perhaps the harshest critic of all—their own inner voice. That kind of quiet, corrosive self-doubt has stopped countless brilliant minds before they ever began.

So may I offer a suggestion? If someone—anyone, even your own inner voice—tells you that you'll never do anything remarkable, perhaps the most subversive, defiant, and meaningful thing you can say isn't "Yeah, you're probably right", but rather,"You've mistaken me for someone who cares. Please correct that", then promptly push them off a cliff.

Say you live to 80—that's about 29,200 days. If you're 18, you've already spent around 6,500. By 28, it's 10,000. At 38? Nearly half your time is gone. No matter what you believe comes after, those days won't come back. And they are far too precious to waste on the noise of cynics.

By the power of Grayskull, look at where we are – historically, technologically, galactically – the whole game! This isn't normal, is it? Act without expectation. Make cool stuff just because.

This week, this year, this century—they'll be footnotes someday. Blink-and-you-miss-it stuff in the grand sweep of time. If you're hesitating to take a strange, uncertain path, remember: the critics and the doubters will vanish just as quickly as your missteps. Their sneers won't outlive your failures—and your failures won't outlive your courage to try.

There's never been a better time to start something new. Life itself is a strange, miraculous chance—and there are still countless ideas unspoken, unmade, and undiscovered, waiting for someone bold enough to try.

Whatever you're creating or dreaming up, keep going. In your wild plans and stubborn pursuit of something uniquely yours—there's meaning.

And in all your adventures, I'm rooting for you. Truly.

Lowkya N Gowda, 1K(M)

The World of Words

In the huge English world,
There comes a war of words.

Here, a word with silent letter,
There arguing that its better.

The word colour with 'u',
Is same as the color without 'u'.

Here comes different accents,
Which leads to misunderstand-able accidents.

Peace and piece are homophones,
Puzzling the lazybones.

English is as long as a tail,
Creating a hilarious tale.

Gagana Siri G S 1-D

I was as white as milk
When I was unbought.
Now I can't recognize myself,
Stored up in a tiny shelf,
In a small fixed spot.

I have been used uncountable times
To help humans with their crimes.
Crimes would be too big of a word,
But that's how I feel—
Always used but never heard.

The young man with a head of granite
Is my mortal enemy—
Or a tool to make me fight?
With each rub on the paper,
A part of me is lost forever.

The hearts of my friends fill with pity,
As they watch me lose my identity.
I become smaller and smaller with each stroke,
Almost reaching infinity.

I have never been cared for,
As humans always discover
A new one...
Better than me,
Whiter than ever.

A fact about me that sounds irrational—
I'm an object that is immortal.
I never die, I never perish.
In a life that never ends,
What memories can I possibly cherish?

I have accepted this as my job,
For fate always wins.
I was born to do this—
To satisfy them,
And erase their sins.

Disha Joshi, 2K

ಅಪ್ಪ ಎಂದರೆ ಬೆಳಕು. ಅಪ್ಪನಿಂದಲೇ ಬದುಕು

"ಅಪ್ಪ" ಎಂಬ ಶಬ್ದದಲ್ಲಿ ಅದೆಂಥ ಗತ್ತು ಗಾಂಭೀರ್ಯ. ಅಪ್ಪ ಅನ್ನೋ ಪದಕ್ಕೆ ಸಾವಿರ ಆನೆಗಳ ಬಲ, ದರ್ಪ, ಕೋಪ ಅತಿ ಎನಿಸುವ ಶಿಸ್ತು,ಅನುಮಾನ. ಇದೆಲ್ಲದರ ಸಮ್ಮಿಲನವೇ ಅಪ್ಪ.

ದೇವರು ತಾನು ಎಲ್ಲಾ ಕಡೆ ಇರಲು ಸಾಧ್ಯವಿಲ್ಲವೆಂದು ತಾಯಿಯನ್ನು ಸೃಷ್ಟಿಸಿದ ಅಂತೆಯೇ ತನ್ನಿಂದ ಎಲ್ಲರನ್ನು ಸಲಹಲು ಸಾಧ್ಯವಿಲ್ಲವೆಂದು ಅಪ್ಪನನ್ನು ಸೃಷ್ಟಿಸಿದ. ದಶಕಗಳ ಹಿಂದೆ ಅಪ್ಪ ಎಂದರೆ ಮಕ್ಕಳ ಮೊಗದಲ್ಲಿ ಮೂಡುತ್ತಿದ್ದ ಭಾವ ಭಯ. ಹಾಗೆಂದು ಆತ ಸರ್ವಾಧಿಕಾರಿ ಅಲ್ಲ ಬದಲಿಗೆ ಸರಿ ತಪ್ಪುಗಳನ್ನು ತಿದ್ದುವ ಮಾರ್ಗ ದರ್ಶಕ. ಆದರೆ ಕಾಲ ಬದಲಾದಂತೆ ಅಪ್ಪನು ಸಹ ಬದಲಾಗುತ್ತಿದ್ದಾನೆ. ಅಂದಿನ ಅಪ್ಪನಲ್ಲಿದ್ದ ದರ್ಪ, ಕೋಪ, ಅನುಮಾನ ಇಂದಿನ ಅಪ್ಪನಲಿಲ್ಲ ಕೊಂಚ ಕೊಂಚವಾಗಿ ಕಡಿಮೆಯಾಗುತ್ತಿದೆ.

ನನ್ನ ಅಮ್ಮ ನನಗೆ ಬದುಕು ನೀಡಿದರೆ ಆ ಬದುಕಿಗೆ ಭರವಸೆ ನೀಡುವವರೇ ನನ್ನ ಅಪ್ಪ. ನನ್ನ ಅಪ್ಪ ನನ್ನನ್ನು ತುಂಬಾ ಪ್ರೀತಿ ,ಶಿಸ್ತು ಮತ್ತು ಸಮರ್ಪಣೆಯಿಂದ ಬೆಳೆಸಿದ್ದು ಅವರ ಬಗ್ಗೆ ನನಗೆ ತುಂಬಾ ಹೆಮ್ಮೆ ಇದೆ. ಅವರ ತಾಳ್ಮೆ ಶ್ರಮ ಮತ್ತು ಪ್ರೀತಿಯನ್ನು ಕಂಡು ನನಗೆ ಶ್ರದ್ಧೆ ಮೂಡುತ್ತದೆ. ಅವರು ನನಗಾಗಿ ಏನನ್ನು ಬೇಕಾದರೂ ತ್ಯಾಗ ಮಾಡುತ್ತಾರೆ. ಅಪ್ಪನ ಪ್ರೀತಿ ಬಹಿರಂಗವಾಗಿರದೆ ಇದ್ದರೂ ಅದು ಗಾಢವಾಗಿರುತ್ತದೆ. ನಾನು ಯಾವಾಗಲು ನನ್ನ ಅಪ್ಪನನ್ನು ಪ್ರೀತಿಸುತ್ತೇನೆ ಮತ್ತು ಗೌರವಿಸುತ್ತೇನೆ.

ಅಪ್ಪ ಎಂದರೆ ಕೇವಲ ಪೋಷಕನಲ್ಲ ಅವರು ನಮ್ಮ ಕನಸುಗಳಿಗೆ ರಚನೆ ಕೊಡುವ ಶಿಲ್ಪಿ, ಬದುಕಿನ ಪಾಠ ಹೇಳುವ ಮುಕ್ತ ಶಾಲೆ. ಅವರ ಮೌನದಲ್ಲಿ ತಾನೇ ಮಾತುಗಳಿಲ್ಲದೆ ಪ್ರೀತಿಯ ಪ್ರವಾಹ ಹರಿಯುತ್ತದೆ. ತಾಯಿ ನಮ್ಮನ್ನು ಎತ್ತಿ ಹಿಡಿದರೆ ತಂದೆ ನಮ್ಮನ್ನು ನೆಲಕ್ಕೆ ನಿಲ್ಲಿಸುವವರು ತಮ್ಮ ಬಲವಾದ ಹೆಜ್ಜೆಯಲ್ಲಿ ನಮ್ಮ ನಂಬಿಕೆಯನ್ನು ಬೆಳೆಸುವ ತಂದೆಯ ಶ್ರಮವನ್ನು ನಾವು ಎಷ್ಟು ನೋಡಿದರೂ ಆಳವಾಗಿ ಅರ್ಥ ಮಾಡಿಕೊಳ್ಳುವುದು ವರ್ಷಗಳ ನಂತರ. ಅವರು ಬೆಳಗ್ಗೆನಿಂದ ರಾತ್ರಿಯ ತನಕ ದುಡಿಯುವ ಸ್ಥಿತಿಯನ್ನು ನಾವು ಸಾಮಾನ್ಯವನ್ನು ನೋಡುತ್ತೇವೆ, ಆದರೆ ಅವರ ಪ್ರತಿಯೊಂದು ಬೆವರಿನ ಹನಿಯು ನಮ್ಮ ಹಸಿವನ್ನು ತಣಿಸುವ ಹೆಜ್ಜೆಯಾಗಿದೆ. ಅವರು ನಮ್ಮ ಮೊದಲ ಶಿಕ್ಷಕ, ಮೊದಲ ಮಿತ್ರ ಮತ್ತು ಮೊದಲ ಪ್ರೇರಣೆ. ಅಪ್ಪ ಎಂಬ ಆಲದ ಮರದ ನೆರಳಿನಲ್ಲಿ ಬಾಳಿ ಬದುಕುತ್ತಿರುವ ನಮ್ಮವರ ಪಾಲಿಗೆ ಆತನೇ ಸರ್ವಸ್ವ. ಅಪ್ಪ ತನ್ನ ಕಷ್ಟಗಳನ್ನು ಬಚ್ಚಿಟ್ಟು ಹಗಲು ರಾತ್ರಿ ದುಡಿದು ನನ್ನ ಅಗತ್ಯಗಳನ್ನು, ನನ್ನ ಎಲ್ಲಾ ಆಸೆಗಳನ್ನು ಪೂರೈಸಿ ನನಗೆ ಕಷ್ಟಗಳನ್ನು ತೋರಿಸದೆ ಸುಖ ನೀಡಿದ ಮಹಾನುಭಾವ ಅಪ್ಪ.

ಅಪ್ಪ ಶಿಸ್ತಿನ ಮೂಲಕ ಪ್ರೀತಿಯನ್ನು ತೋರಿಸುತ್ತಾರೆ. ಅವರ ಮಾತು ಕೆಲವೊಮ್ಮೆ ಕಠಿಣವಾಗಬಹುದು, ಆದರೆ ಅದರ ಹಿಂದೆ ನಮ್ಮ ಉಜ್ವಲ ಭವಿಷ್ಯದ ಆಸೆಯೇ ಸಿಲುಕಿರುವುದು. ಅವರು ನಮಗೆ ಹಣ ನೀಡುವುದಕ್ಕಿಂತ ಹೆಚ್ಚಿನದು ಕೊಡುತ್ತಾರೆ, ಅವರು ನಂಬಿಕೆ ನೀಡುತ್ತಾರೆ, ಧೈರ್ಯ ತುಂಬುತ್ತಾರೆ, ನಾವು ಬದುಕು ಕಟ್ಟಿಕೊಳ್ಳುವ ತನಕ ನೆರಳಾಗಿ ನಿಲ್ಲುತ್ತಾರೆ. ಒಂದು ವೇಳೆ ನಾವು ವಿಫಲರಾದರು, ಎಲ್ಲರಿಗಿಂತ ಮೊದಲು ನಮ್ಮನ್ನು ಮತ್ತೆ ನಿಲ್ಲಿಸಲು ಕೈ ಹಿಡಿಯುವವರೇ ಅಪ್ಪ. ಅವರು ಕಂಡ ಕನಸುಗಳು ನಮ್ಮಲ್ಲಿ ಜೀವಿಸಬೇಕು ಏಕೆಂದರೆ ಅಪ್ಪನ ಗೆಲುವು ಮಕ್ಕಳು ಮಾಡಿದ ಸಾಧನೆಯಲ್ಲಿಯೇ ತೊಡಗಿದೆ.

ಅಪ್ಪನ ಪ್ರೀತಿ ಯಾವಾಗಲೂ ಶಾಂತವಾಗಿರುತ್ತದೆ. ಅವರು ಹೆಚ್ಚು ಮಾತು ಆಡದಿದ್ದರೂ ಅವರ ಕಾಳಜಿ ನನ್ನ ಪ್ರತಿದಿನದ ಜೀವನದಲ್ಲಿ ಸ್ಪಷ್ಟವಾಗಿರುತ್ತದೆ. ನನಗೆ ಬೇಕಾದ ಯಾವ ಸಹಾಯವನ್ನಾದರೂ ಅವರು ತಕ್ಷಣ ಮಾಡುತ್ತಾರೆ. ಅವರು ಪ್ರೀತಿ ತೋರಿಸುವ ರೀತಿ ವಿಭಿನ್ನ. ನಾನು ಕಾಯಿಲೆ ಪಟ್ಟರೆ ಅಪ್ಪ ಕನಸು ಕಾಣದೆ ಜಾಗೃತಿಯಾಗಿರುತ್ತಾರೆ. ನಾನು ಯಶಸ್ವಿಯಾಗಲು ಅವರು ನನಗೆ ಮಾರ್ಗದರ್ಶನ ನೀಡುತ್ತಾರೆ

ಅಪ್ಪ ನನ್ನ ಜೀವನದ ಮೊದಲ ಮಿತ್ರ ಅವರೊಂದಿಗೆ ಬೆಳಗಿನ ವಾಕಿಂಗ್ ಸೈಕಲ್ ತರಬೇತಿ ಕಠಿಣ ಸಮಯಗಳಲ್ಲಿ ನೀಡಿದ ಧೈರ್ಯ ಎಲ್ಲವೂ ಹೃದಯದಲ್ಲಿ ಸದಾ ಉಳಿದಿರುವ ಪಾಠಗಳು. ಓದು ಅರ್ಥವಾಗದಾಗ ತಾಳ್ಮೆಯಿಂದ ವಿವರಿಸುತ್ತಿದ್ದರು, ಪ್ರತಿ ಯಶಸ್ಸಿಗೆ ಸಂತೋಷಗೊಂಡವರು ಸೋಲಿನಲ್ಲಿ ಸಾತ್ ನೀಡಿದವರು ಅವರ

ಮೌನ ಪ್ರೀತಿಯ ಭಾವನೆ ತೋರುತ್ತಿತ್ತು ಜೀವನದ ಪ್ರತಿಯೊಂದು ಪಾಠವು ಅವರಿಂದಲೇ ಕಲಿತೆ. ಅಪ್ಪನೊಂದಿಗೆ ಕಳೆಯುವ ಕ್ಷಣಗಳು ನನ್ನ ಗೆಲುವಿನ ಮೂಲ.

ನಾನು ಮೊದಲ ಬಾರಿಗೆ ಶಾಲೆಗೆ ಹೋಗುತ್ತಿದ್ದಾಗ ತಾಳ್ಮೆಗೂ ಮೀರಿ ಅಳುತ್ತಿದ್ದೆ, ತಾಯಿಯು ನನ್ನನ್ನು ತಬ್ಬಿ ಕೊಂಡರು, ಆದರೆ ಅಪ್ಪ ನನ್ನನ್ನು ಗೇಟ್ ವರೆಗೂ ಹತ್ತಿಸಿದರು. ಅವರು ನಗುತ್ತಾ ಹೇಳಿದರು: "ಮಗಳೇ ಇದು ಮೊದಲ ಹೆಜ್ಜೆ ಮುಂದೆ ನಿನ್ನ ಹತ್ತಾರು ಹೆಜ್ಜೆಗಳು ಆರಂಭ" ಅವರು ಕೈಬಿಟ್ಟಾಗ ನನಗೆ ಭಯವಾಯಿತು .ಆದರೆ ಅವರು ಹಿಂದೆ ನಿಂತಿದ್ದ ದೃಷ್ಟಿ ನನಗೆ ಶಕ್ತಿಯಾಯಿತು.ಬಾಲ್ಯದಲ್ಲಿ ಬಿದ್ದಾಗ ಕೈಹಿಡಿದಿದ್ದು ಅಪ್ಪ, ಸೈಕಲ್ ಚಲಾಯಿಸಲು ಕಲಿತ ಮೊದಲ ದಿನ ನನ್ನ ಹಿಂದೆ ಕೈ ಬಿಟ್ಟು ನಂಬಿಕೆ ಇಟ್ಟ ವ್ಯಕ್ತಿ ಅವರು, ಪರೀಕ್ಷೆ ಫಲಿತಾಂಶದ ಬಗ್ಗೆ ಭಯಗೊಂಡಾಗ ಮೊದಲು ನಕ್ಕವರು, ದುಃಖದ ವೇಳೆ ಎದೆ ನೀಡಿದವರು, ಅದು ಅವರ ಪ್ರೀತಿಯ ಮುಸುಕು ಎಂಬುವುದು ಅರಿತೆ. ಇಂತಹ ಅನೇಕ ಕ್ಷಣಗಳು ನನ್ನನ್ನು ಬಲಿಷ್ಠವನ್ನಾಗಿ ಮಾಡಿದೆ.

ಅಪ್ಪನಿಗೆ ನಾನು ಎಷ್ಟು ಧನ್ಯವಾದ ತಿಳಿಸಿದರೂ ಸಾಲದು. ಅಪ್ಪ ನನ್ನ ಜೀವನದ ಮೊದಲ ಮತ್ತು ಮುಖ್ಯ ನಾಯಕ. ನಾನು ಇವತ್ತು ಏನಾದರೂ ಸಾಧಿಸುತ್ತಿದ್ದರೆ ಅದು ನನ್ನ ಅಪ್ಪನ ಬೆಂಬಲದಿಂದ ಸಾಧ್ಯವಾಗಿದೆ. ನನ್ನ ಓದು, ಆಟ, ಕನಸುಗಳು ಎಲ್ಲವನ್ನು ಅವರು ಪ್ರೋತ್ಸಾಹಿಸುತ್ತಾರೆ. ಅವರು ದುಡಿದು ನಮ್ಮ ಕುಟುಂಬಕ್ಕೆ ಉತ್ತಮ ಜೀವನವನ್ನು ಕೊಡಲು ಪ್ರಯತ್ನಿಸುತ್ತಿದ್ದಾರೆ. ಅವರ ಆಸೆಗಳಿಗೆ ತಕ್ಕಂತೆ ನಾನು ಪ್ರಯತ್ನಿಸುತ್ತೇನೆ. ಅವರು ನನಗೆ ಆದರ್ಶ. ಅಪ್ಪನೊಂದಿಗೆ ಕಳೆದ ಪ್ರತಿಯೊಂದು ಕ್ಷಣವು ನನಗೆ ಅಮೂಲ್ಯ, ಅವರು ನನಗೆ ನಂಬಿಕೆ ಮತ್ತು ಶಕ್ತಿಯ ಪ್ರತಿರೂಪ. ಈ ಜೀವನದಲ್ಲಿ ಅಪ್ಪನ ಮಹತ್ವವನ್ನು ಅರಿಯುವುದು ನನ್ನ ನಿಜವಾದ ಜವಾಬ್ದಾರಿ.

ಅಪಾರ ಶ್ರಮ, ನಿಸ್ವಾರ್ಥ ಪ್ರೀತಿ ಮತ್ತು ಸದಾ ಬೆನ್ನೆಲುಬಾಗಿ ನಿಂತು ನನ್ನ ಬದುಕನ್ನು ರೂಪಿಸಿದ ನನ್ನ ತಂದೆಗೆ ಈ ಲೇಖನದ ಮೂಲಕ ಹೃದಯಪೂರ್ವಕ ಧನ್ಯವಾದಗಳು ಸಲ್ಲಿಸುತ್ತೇನೆ. ಅವರ ಪ್ರತಿ ಹೆಜ್ಜೆಯು ನನಗೆ ಮಾರ್ಗದರ್ಶನವಾಗಿದೆ. ನನ್ನ ಎಲ್ಲಾ ಸಾಧನೆಗಳ ಹಿಂದೆ ಅವರ ಶ್ರಮ ಪ್ರೇರಣೆ ಮತ್ತು ನಂಬಿಕೆ ಇದೆ .ತಪ್ಪು ಮಾಡಿದಾಗ ಗದರಿಸಿ ತಿದ್ದಿ ಹೇಳುವ, ಸರಿ ಮಾಡಿದಾಗ ಪ್ರೋತ್ಸಾಹಿಸುವ ನನ್ನ ಅಪ್ಪನ ಪ್ರೀತಿಗೆ ನನ್ನ ಹೃತ್ಪೂರ್ವಕ ನಮನ.

ಶ್ರೀಯಾ ಶೆಟ್ಟಿ, 2'ಜಿ'

'ಶ್ರೀರಾಮಭೂಮಿ' ವಾಲ್ಮೀಕಿ ಬರೆದ ಭೂಪಟ

ನೀವು ಇದುವರೆಗೆ ಮರ್ಕೇಟರ್ ಅಥವಾ ಜೇಮ್ಸ್ ಗಾಲ್‌ನಂತಹ ನಕ್ಷೆಕಾರರ ಹೆಸರನ್ನು ಕೇಳಿರಬಹುದು. ಈಗ ಓರ್ವ ಭಾರತೀಯ ನಕ್ಷೆಕಾರನನ್ನು ಹೆಸರಿಸಿ ಎಂದರೆ ಯಾರಿಗೂ ಗೊತ್ತಿಲ್ಲ. ಆದರೆ ನಮ್ಮ ಮೊದಲ ನಕ್ಷೆಕಾರನು ವಾಲ್ಮೀಕಿ ಎಂದು ಹೇಳಿದರೆ ನೀವು ನಂಬುತ್ತೀರಾ? ಅರೇ! ಅವರು ರಾಮಾಯಣವನ್ನು ಬರೆದವರಲ್ಲವೇ? ಅವರು ಭೂಪಟವನ್ನು ಯಾವಾಗ ತಯಾರಿಸಿದರು ಎಂದು ನಿಮ್ಮಲ್ಲಿ ಪ್ರಶ್ನೆ ಮೂಡುತ್ತಿರಬಹುದು. ಇಲ್ಲಿ ಆಶ್ಚರ್ಯಕರವಾದ ವಿಷಯ ಏನೆಂದರೆ ಈ ರಾಮಾಯಣದಲ್ಲಿಯೇ ಅವರು ತಮ್ಮ ಕಾವ್ಯಕೌಶಲ್ಯದಲ್ಲಿ ಗೌಪ್ಯವಾಗಿ ನಮ್ಮ ಭೂಮಂಡಲದ ವಿವಿಧ ಸ್ಥಳಗಳನ್ನು ವಿವರಿಸಿದ್ದಾರೆ.

ಈ ಮಾಹಿತಿ ನಮಗೆ ಸಿಗುವುದು ಕಿಷ್ಕಿಂಧಾಕಾಂಡದ ನಲವತ್ತನೆಯ ಸರ್ಗದಲ್ಲಿ. ಸೀತಾಮಾತೆಯನ್ನು ಹುಡುಕಲು ಸುಗ್ರೀವನು ಜಗತ್ತಿನ ವಿವಿಧ ಸ್ಥಳಗಳಿಗೆ ವಾನರರನ್ನು ಕಳುಹಿಸುತ್ತಾನೆ. ಆಗ ಎಲ್ಲೆಲ್ಲಿ ಹುಡುಕಬೇಕು ಎಂದು ಒಂದೊಂದಾಗಿಯೇ ಹೀಗೆ ಹೇಳಿಕೊಂಡು ಹೋಗಿದ್ದಾನೆ. ಒಂದೊಂದಾಗಿ ಈ ಸಾಲುಗಳ ಅರ್ಥ ಮತ್ತು ಅದು ಯಾವ ದೇಶಗಳನ್ನು ವರ್ಣಿಸುತ್ತಿವೆ ಎಂದು ತಿಳಿದುಕೊಳ್ಳೋಣ.

॥ಯತ್ನವಂತೋ ಯವ ದ್ವೀಪಂ ಸಪ್ತ ರಾಜ್ಯ ಉಪಶೋಭಿತಮ್
ಸುವರ್ಣ ರೂಪ್ಯಕಂ ದ್ವೀಪಂ ಸುವರ್ಣ ಆಕಾರ ಮಂಡಿತಮ್॥

"ಭಾರತದ ಪೂರ್ವಕ್ಕೆ ಹೋದಾಗ ನಮಗೆ ಸಿಗುವ ಮೊದಲ ಸ್ಥಳವೆಂದರೆ ಯವದ್ವೀಪ. ಈ ಯವದ್ವೀಪದಲ್ಲಿ ಏಳು ರಾಜ್ಯಗಳು ಇದ್ದವಂತೆ. ಅವುಗಳಲ್ಲಿ ಸುವರ್ಣದ್ವೀಪ ಮತ್ತು ರೂಪ್ಯದ್ವೀಪ (ಬೆಳ್ಳಿಯ ದ್ವೀಪ) ಸೇರಿದ್ದವು." ಕಾಲಕ್ರಮೇಣ ಯವದ್ವೀಪದ ಹೆಸರು ಜಾವಾ ಎಂದು ಬದಲಾಯಿತು. ಸುವರ್ಣದ್ವೀಪ ಸುಮಾತ್ರಾ ಎಂದು ಕರೆಯಲ್ಪಟ್ಟಿತು. ಹೀಗೆ ಇಂಡೋನೇಷ್ಯಾ, ಮಲೇಷ್ಯಾ, ನವಗಿನೀ ದ್ವೀಪಗಳು ಬೇರೆ ರಾಜ್ಯಗಳಿರಬಹುದು.

॥ತತಃ ಸಮುದ್ರ ದ್ವೀಪಾನ್ ಚ ಸುಭೀಮಾನ್ ದ್ರಷ್ಟುಮ್ ಅರ್ಹಥ
ಊರ್ಮಿಮಂತಂ ಮಹಾರೌದ್ರಂ ಕ್ರೋಶಂತಮ್ ಅನಿಲ ಉದ್ಧಿತಂ॥

"ಇನ್ನೂ ಮುಂದೆ ಸಾಗಿದರೆ ಹಲವಾರು ಬೇರೆ ದ್ವೀಪಗಳನ್ನು ಕಾಣುತ್ತೇವೆ. ಈ ದ್ವೀಪಗಳಲ್ಲಿ ರೌದ್ರವಾದ ಬಿರುಗಾಳಿ ಬೀಸುತ್ತದೆ ಎಂದು ಹೇಳಲಾಗಿದೆ." ಈಗಿನ ಜಪಾನ್ ದೇಶದಲ್ಲಿಯೂ ಚಂಡಮಾರುತ, ಸುನಾಮಿ, ಭೂಕಂಪಗಳನ್ನು ನಾವು ನೋಡಬಹುದು.

॥ತಂ ತು ದೇಶಮ್ ಅತಿಕ್ರಮ್ಯ ಶೈಲೋದಾ ನಾಮ ನಿಮ್ನಗಾ
ಉಭಯೋಃ ತೀರಯೋಃ ತಸ್ಯಾಃ ಕೀಚಕಾ ನಾಮ ವೈಣವಃ॥

'ಈ ದ್ವೀಪಗಳನ್ನು ಸುತ್ತಿಕೊಂಡು ಹೋದರೆ ಅಲ್ಲಿ ಶೈಲೋದಾ ಎಂಬ ನದಿ ಹರಿಯುತ್ತದೆ. ಆ ನದಿಯ ಎರಡೂ ತೀರಗಳಲ್ಲಿಯೂ ಬಿದಿರಿನ (ಬಾಂಬೂ) ಮರಗಳು ಬೆಳೆಯುತ್ತವೆ.' ಈಗ ಬಾಂಬೂ ಮರ ಎಂದು ಹೇಳಿದ ಕೂಡಲೇ ನೆನಪಾಗುವುದು ಖಂಡಿತ ಚೀನಾ ದೇಶವೇ.

॥ತತೋ ರಕ್ತ ಜಲಂ ಭೀಮಂ ಲೋಹಿತಂ ನಾಮ ಸಾಗರಮ್
ಗತ್ವಾ ಪ್ರೇಕ್ಷಥ ತಾಂ ಚೈವ ಬೃಹತೀಮ್ ಕೂಟಶಾಲ್ಮಲೀಮ್॥

"ತದನಂತರ ನಮಗೆ ಸಿಗುವುದು ಲೋಹಿತ ಎಂಬ ಹೆಸರಿನ ರಕ್ತದ ಸಾಗರ." ಅಲ್ಲಿ ನೀರಿನ ಬದಲು ನೆತ್ತರು ಹರಿಯುವುದಿಲ್ಲ; ನೋಡುವುದಕ್ಕೆ ಹಾಗೆ ಕಾಣುತ್ತದೆ ಅಷ್ಟೇ. ಅದೇಕೆಂದರೆ ಅಲ್ಲಿ ಆಸ್ಟ್ರೇಲಿಯಾದ ಗ್ರೇಟ್ ಬ್ಯಾರಿಯರ್ ಕೋರಲ್(ಹವಳ) ರೀಫ್ ಇದೆ. ಹವಳದ ಕೆಂಪು ಬಿಂಬ ನೀರಿನಲ್ಲಿ ಕಾಣುತ್ತದೆ. ಇಲ್ಲಿ ಶಾಲ್ಮಲೀ ವೃಕ್ಷದ ಹೆಸರು ನಾವು ಕಾಣುತ್ತೇವೆ. ಇವು ಆಸ್ಟ್ರೇಲಿಯಾದಲ್ಲಿ ಹೆಚ್ಚು ಪ್ರಮಾಣದಲ್ಲಿ ಸಿಗುವ ಸಾಲ್ಮೇಲಿಯಾ (ಬೂರುಗ) ಮರಗಳು ಎಂಬುದರಲ್ಲಿ ಯಾವ ಸಂದೇಹವೂ ಇಲ್ಲ.

॥ಜಲೋದಂ ಸಾಗರಂ ಶೀಘ್ರಂ ಸರ್ವ ಭೂತ ಭಯಾವಹಂ
ತತ್ರ ತತ್ ಕೋಪಜಂ ತೇಜಃ ಕೃತಂ ಹಯಮುಖಂ ಮಹತ್
ಸ್ವಾದು ಉದಸ್ಯ ಉತ್ತರೇ ದೇಶೇ ಯೋಜನಾನಿ ತ್ರಯೋದಶ
ಜಾತರೂಪ ಶಿಲೋ ನಾಮ ಸುಮಹಾನ್ ಕನಕ ಪ್ರಭಃ॥

"ಈಗ ಸಿಗುವುದು ಒಂದು ವಿಶಾಲವಾದ ಸಾಗರ. ಅಲ್ಲಿಯ ಅಲೆಗಳು ಅತಿ ರಭಸದಿಂದ ಹರಿಯುತ್ತವೆ. ಅಲ್ಲಿ ಕುದುರೆಯ ಮುಖದ ಆಕೃತಿಯಲ್ಲಿ ಜ್ವಾಲೆಗಳು ಸಿಡಿಯುತ್ತಿರುತ್ತವೆ. ಈ ಜ್ವಾಲೆಗಳ ಮಧ್ಯದಲ್ಲಿ ಜಾತರೂಪ ಎಂಬ ಚಿನ್ನದ ಪರ್ವತ ಇದೆ." ಇದು ಪೆಸಿಫಿಕ್ ಸಮುದ್ರದ ವರ್ಣನೆ ಎಂದು ನಿಮಗೆ ಗೊತ್ತಾಗಿರಬಹುದು. ಅಲ್ಲಿ ನಾವು ರಿಂಗ್ ಆಫ್ ಫೈರ್ ಎಂಬ ಜ್ವಾಲಾಮುಖಿಗಳ ಸಾಲನ್ನು ಕಾಣುತ್ತೇವೆ. ಒಂದಾದಾಗಿ ಅವುಗಳನ್ನು ಜೋಡಿಸುತ್ತಾ ಹೋದರೆ ಒಂದು ಅಶ್ವದ ಆಕಾರವನ್ನು ನಾವು ನಿಜವಾಗಿಯೂ ಕಾಣಬಹುದು. ಈ ಅಗ್ನಿಪರ್ವತಗಳಿಂದ ಇಳಿಯುವ ಥಳಥಳ ಹೊಳೆಯುವ ಲಾವಾರಸವೇ ಅವರಿಗೆ ಚಿನ್ನದಂತೆ ಕಂಡಿರಬಹುದು.

॥ತತಃ ಪರಮಂ ಹೇಮಮಯಃ ಶ್ರೀಮಾನ್ ಉದಯಪರ್ವತಃ
ತತಃ ಪರಂ ಆಗಮ್ಯ ಸ್ಯಾತ್ ದಿಕ್ ಪೂರ್ವಾ ತಿಮಿರ ಆವೃತಾ॥

"ಕೊನೆಯಲ್ಲಿ ಉದಯಪರ್ವತ ಎಂಬ ಒಂದು ಬಂಗಾರದಂತೆ ಹೊಳೆಯುವ ಗಿರಿ ಸಿಗುತ್ತದೆ. ಆದರೆ ಅದರ ಮುಂದೆ ಪೂರ್ತಿ ಕಗ್ಗತ್ತಲೆ." ಅಮೇರಿಕಾದಲ್ಲಿ ಉತ್ತರದಿಂದ ದಕ್ಷಿಣದಿಂದ ರಾಕೀಸ್ ಮತ್ತು ಆಂಡಿಸ್ ಪರ್ವತಶ್ರೇಣಿ ಇದೆ. ಆ ಕಾಲದಲ್ಲೇ ಭೂಮಿಯ ಪರಿಭ್ರಮಣದ ಜ್ಞಾನ ಜನರಿಗಿತ್ತು ಎಂದು ನಮಗೆ ಇದರಿಂದ ತಿಳಿಯುತ್ತದೆ. ಏಕೆಂದರೆ ಭಾರತದಲ್ಲಿ ಬೆಳಕಿದ್ದಾಗ ಬೇರೆ ಅರ್ಧದಲ್ಲಿ ಅಂಧಕಾರವೇ ತಾನೇ? ಇದನ್ನೇ ಈ ಶ್ಲೋಕ ತಿಳಿಸುತ್ತಿದೆ. ಆ ಮೂಲೆಯಿಂದ ಸೂರ್ಯ ಹುಟ್ಟುತ್ತಾನೆ ಎಂದೇ ಅದಕ್ಕೆ ಉದಯಪರ್ವತವೆಂದು ಹೆಸರಿಸಿದ್ದಾರೆ.

ಪ್ರಪಂಚದ ಬೇರೆಲ್ಲೆಡೆ ಮನುಷ್ಯರು ಇನ್ನೂ ಬುಡಕಟ್ಟಿನವರಂತೆ ಜೀವಿಸುತ್ತಿದ್ದಾಗ ನಮ್ಮ ಭಾರತದ ಜನರ ಜ್ಞಾನ ಹೇಗಿತ್ತು ನೋಡಿ. ಯಾವುದೇ ಉಪಗ್ರಹ, ಜಿ.ಪಿ.ಎಸ್. ಇಲ್ಲದೆ ನಿಖರವಾಗಿ ಮಾಹಿತಿ ನೀಡಿದ್ದಾರೆ ನಮ್ಮ ಪೂರ್ವಜರು. ಇದು ಕೇವಲ ಮೂಡಣದ ವಿವರಣೆ. ಇನ್ನೂ ಹಲವಾರು ದೇಶಗಳ ಮತ್ತು ಅಲ್ಲಿಯ ವೈಶಿಷ್ಟತೆಗಳ ವಿವರಣೆ ನಮಗೆ ರಾಮಾಯಣದಲ್ಲಿ ಸಿಗುತ್ತದೆ. ಅದನ್ನು ತಿಳಿಯುವುದಕ್ಕೆ ನೀವೇ ರಾಮಾಯಣವನ್ನು ಓದಬೇಕು. ಇಂತಹ ಅದ್ಭುತ ಗ್ರಂಥಗಳನ್ನು ಬರೆದಿರುವ ಕವಿರತ್ನರ ನಾಡಲ್ಲಿ ಹುಟ್ಟಿದ ನಾವೇ ಧನ್ಯರು.

ಆಕರ: https://www.valmikiramayan.net

ನಿನಾದ್ ವಸಿಷ್ಠ, 2ಎ

।। गावो विश्वस्य मातरः ।।

अस्य विषयस्य शीर्षिका अस्ति 'गावो विश्वस्य मातरः' इति। अस्य अभिप्रायः, विश्वेषु सर्वजनाः गां पूज्यभावेन मातृरूपेण पश्यन्ति। तासाम् आराधनं च कुर्वन्ति।

विश्वे भारतदेशः कथं गौरवार्हः वर्तते तथैव भारतदेशे अपि गवां विशिष्टस्थानं वर्तते। तस्याः मौल्यानि अनेकेषु ग्रन्थेषु विवरितम् अस्ति। तस्य एकम् उदाहरणम् अस्ति,

गावो मे मातरः सर्वाः पितरश्चापि गोवृषाः।
ग्रासमुष्टि प्रदानेन स मे विष्णुः प्रसीदतु।।

अत्रापि गावः मातृरूपेण स्थिताः वर्तन्ते। किमर्थम् श्लोककरः एवं वर्णयति इति चेत्, वयं केवलं शैशवे अति लघुसमयपर्यन्तं मतृस्तन्यपानामृतं पिबामः। परन्तु तत्क्षणादारभ्य आजीवनं गवां क्षीरामृतमेव पास्यामः।

न केवलं गावः, वृषभाः अपि पितृरूपेण स्थीयन्ते। पितृरूपेण कथमिति चेत्, यथा पिता अस्मान् कष्टमनुभूय, अशन-वसनान् प्रदास्य पालयति, तथैव वृषभाः अपि पितृस्थाने स्थित्वा धान्यानां वर्धने परिश्रमन्ति। तस्य प्रभावेनैव वयं भोक्तुं शक्नुमः।

न केवलं क्षीरम् अन्याः गव्याः अपि अमृततुल्याः एव वर्तन्ते। तेषां उपयोगाः आयुर्वेदादि शास्त्रेषु वर्णिताः। गवां पञ्चगव्ये क्षीरं-दधि घृतं गोमयः गोमूत्रं च अन्तर्भवन्ति। एते सर्वे गव्याः रोगनिरोधकाः रोगोपशमनकाश्च। निस्वार्थभावेन या कापि पशुः जीवति चेत् सा गौः। इदानीं तेषां सन्ततिः क्षीणं भवन् अस्ति। गवां अधोपतितसन्ततेः संरक्षणं वर्धनं च आद्यकर्तव्यम् अत्यावश्यकञ्च। यदि संरक्षणकार्यः न कृतः तर्हि तेषां सन्ततिरेव नश्यति। अस्य प्रभावेण जगति अनेकाः रोगाः सम्भवन्ति। वर्तमानरोगाणामोषधयः न लभ्यन्ते, वृद्धिश्च भविष्यति। अनेन नैके कष्टाः समुद्भवन्ति। अतः गोसंरक्षणार्थं अस्माभिः गृहेषु गौः पालनीया। गवां सेवा कर्तव्या। पक्षे ये गवां पालनं कुर्वन्ति, यदि तेषां पोषणं क्रियते तदपि अपरोक्षरीत्या गोसंरक्षणमेवा। तदर्थं प्रत्यहं वयं गोसंरक्षणार्थं कातिबद्धाः भूत्वा, श्रमामः। प्रयत्नशीलाश्च भविष्यामः। अनेन कार्येण गवान्तर्गत श्रीगोपालकृष्णः प्रसन्नो भूत्वा, अस्माननुगृह्णातु इति प्रार्थयामः।

अनिरुद्धः केरूर्, **2B**

कृष्णार्जुनबान्धव्यम्

अर्जुनस्य माता कुन्ती कृष्णस्य पितुः वसुदेवस्य अनुजा आसीत्। कृष्णस्य अनुजा सुभद्रा अर्जुनस्य पत्नी अपि आसीत्। अतः अनयोः सम्बन्धः तयोः मध्ये आसीत्। अर्जुनः कृष्णस्य मित्रं भक्तः चापि आसीत्। महाभारते कुरुक्षेत्रयुद्धस्य विजेतारः पाण्डवाः कृष्णस्य सहायेन विना अधर्मस्य विरुद्धम् जयं प्राप्तुं कठिनं आसीत्। अस्मिन् प्रकरणे कृष्णार्जुनयोः मध्ये मुधुरं बान्धव्यं ज्ञातुम् शक्नुमः।

कृष्णः कौरवपाण्डवयोः मध्ये युद्धं वर्जयितुं प्रयत्नं करोति, परन्तु एतद् कार्यं कर्तुं अशक्तवान्। सन्धाने सः कौरवेभ्यः न्यूनतम पञ्चग्रामानि यच्छत इति प्रार्थितवान्। परन्तु कौरवाः निराकृतवन्तः। अतः युद्धं अनिवार्यं आसीत्।

युद्धात् पूर्वं कृष्णः दुर्योधनार्जुनाभ्यां एकं वरं ददमीति वचनं दत्तवान्। अतः कृष्णस्य समीपं तौ गतवन्तौ। यदा कृष्णः निद्रामग्नं आसीत् तदा दुर्योधनः प्रथमं गत्वा कृष्णस्य शिरोसमीपं स्थित्वा तस्य उत्थानं निरीक्षितवान्। तदनन्तरं अर्जुनः तत्र गत्वा कृष्णस्य पादयोः समीपं उपविष्टवान्। यदा कृष्णः तस्य अक्षिणी उद्घटितवान्, तदा तस्य पादयोः समीपं उपविष्टं अर्जुनं प्रथमं दृष्ट्वा तस्मै वरं दातुं उद्युक्तवान्। तदा कृद्धः दुर्योधनः अहं प्रथमं आगतवान् इति उक्तवान्।

तत् समये कृष्णः अनुजाय अर्जुनाय प्रथमं चयनं दत्तवान्।

कृष्णः द्वे चयने अर्जुनं प्रति समपितवान्। कृष्णः स्वयं तस्य सेनां सम्मलितवान् इति प्रथमं चयनं आसीत्। कृष्णस्य अतीव वलिष्ठसेना तेन सह युद्धे भागं वहन्ते इति द्वितीयं चयनं आसीत्। अर्जुनः प्रथमं चयनं चित्य सन्तृप्तः भूतवान्। दुर्योधनः अपि बलिष्ठात् सेनात् सन्तृप्तो भूत्वा शकुनिम् प्रति गतवान्। तदा शकुनिः दुर्योधनस्य निश्चयम् श्रत्वा एतद् उत्तवान्,

हे मूर्खा ! त्वं वासुदेवस्य बलं वीर्यं च न जानासि। यदि सः तस्य अस्त्रां गृह्णाति तर्हि अस्माकं पराजयं निश्चितं भविष्यति। अतः पाण्डवानां पराजयार्थं कृष्णः शस्त्रप्रयोगं न करणीयः इति आदेशयतु इति। एतद् वचनं श्रुत्वा दुर्योधनः पुनः कृष्णस्य समीपं वेगेन गत्वा तत् आदेशितवान्। तदा कृष्णः अपि तं आदेशं स्वीकृतवान् च।

एतद् वचनं श्रुत्वा विचलितः अर्जुनः एवं अवदत् , हे वासुदेव ! त्वं शूरवीरपराक्रमी असि। परन्तु त्वं अस्त्रं त्यक्त्वा युद्धे किं करोशि? अस्मभ्यः तव बलं एतद् युद्धम् जेतुं अवश्यकं अस्ति इति।

तदा कृष्णः एवं उक्तवान् , पार्थ ! अहम् अवश्यं युद्धे शस्त्रप्रयोगं न करिष्यामि, किन्तु अहं तव सारथिः भविष्यामि इति।

अर्जुनः अवदत् , एतद् उचितं नास्ति कृष्ण। भवान् द्वारका नगरस्य महाराजः। त्वं मम सारथिर्भवितुं साध्यः न भवति इति।

तदा कृष्णः उवाच , एतत् उचितमेव पार्थ। अहं महाराजः अस्मि परन्तु मित्राय एतद् करिष्यामि। कृपया मम एतद् निर्णयं स्वीकरोतु इति।

कृष्णः अर्जुनस्य सारथिर्भूत्वा पार्थसारथि इति प्रसिद्धोभवत्।

कुरुक्षेत्र युद्धस्य समये अर्जुनः, मम शत्रवः मम सम्बन्धिकाः अपि सन्ति। अहं मम सम्बन्धिकानां विरुद्धं किमर्थम् एतद् युद्धं करणीयं? इति चिन्त्य तस्य धनुः गांडीवम् अत्यजत्। तदा पार्थसारथिः श्रीकृष्णः अर्जुनाय तस्य धर्मकर्मयोः विषये बोधयति। एतद् संवादं श्रीमद्भगवद्गीता इति जगत्प्रसिद्धम् वर्तते।

श्रीमद्भगवद्गीतायाः एकं श्लोकं एवम् अस्ति :

योगस्थः कुरु कर्माणि सङ्गं त्यक्त्वा धनञ्जय।
सिद्ध्यसिद्ध्योः समो भूत्वा समत्वं योग उच्यते।।

आङ्ग्लभाषायां श्लोकस्य अर्थं :

Be steadfast in yoga, O Arjuna. Perform your duty and abandon all attachments to success or failure. Such evenness of mind is called yoga.

कुरुक्षेत्र रणरङ्गे कृष्णः तस्य विश्वरूपं अपि अर्जुनाय दर्शितवान्। तद्रूपं दृष्ट्वा अर्जुनः धन्यः भूत्वा युद्धं अनुवृत्तवान्। एतद् बोधनं अर्जुने तीव्रम् प्रभावं कृत्वा पाण्डवान् युद्धं जेतुं सहाय्यम् करोति।

एतस्यां रीत्यां कृष्णः प्रत्येकस्मिन् क्षणे अर्जुनाय मार्गदर्शनं कृतवान्। एवमेव कृष्णार्जुनयोः बान्धव्यं।

धन्यवादः।

Achyuth M Athreya, 1J

संस्कृतभाषायाः गौरवपूर्णं परिचयः

संस्कृतं सुरभारती इति प्रसिद्धा दैवी वाणी, यत् भारतदेशे जनमानसपावनी रूपेण समुल्लसति। अस्यां भाषायां रामायण-म हाभारताद्यैः, चतुर्भिः वेदैः, उपनिषदः, अष्टादशपुराणैः च सहितानि महाग्रन्थानि रचितानि सन्ति। भाषाविदः एतां सर्वासामार्यभाषाणां जननीं मन्यन्ते। संस्कृतं बहुविधज्ञानस्य व्यापकम् अस्ति, यत्र शब्द-संरचनायाः सौन्दर्यं च तत्त्वज्ञानं च समाविष्टम् अस्ति।

हिन्दी, मराठी, बङ्गला, कन्नड, मलयालम्, ओडिया, तेलुगु इत्यादयः अनेकाः भारतीयभाषाः संस्कृतेन बहु प्रभाविताः सन्ति। एतेषां भाषाणां विकासः तस्याः साहित्यरूपैः, वाक्यविन्यासैः, शब्दावलीभिः च प्रभावितः आसीत्। संस्कृतेन भारतात् बहिः अपि दक्षिणपूर्व एशियायाः भाषासु संस्कृतिषु च महत्त्वपूर्णः प्रभावः अभवत्। थाईलैण्ड्, म्यान्मार, कम्बोडिया, इन्डोनेशिया इत्यादिषु राष्ट्रेषु प्राचीनशिलालेखेषु संस्कृतस्य प्रयोगः बहुधा भवति।

ततश्च आङ्ग्लशब्दानां सङ्ख्या संस्कृतमूलम् अस्ति। माता, भ्राता, ज्यामिति इति संस्कृतशब्दाः क्रमेण मातृभ्रात्रज्यामितीभ्यां निष्पन्नाः। आधुनिकभाषाविज्ञानस्य अध्ययनं संस्कृतस्य अन्यस्य च इन्डो-यूरोपीयभाषायाः संरचनात्मकसादृश्यस्य विषये बहुधा केन्द्रितम् अस्ति।

कालोऽयं विलयं याति भूतगर्ते क्षणे क्षणे।
स्मृतयस्त्ववशिष्यन्ते जीवयन्ति मनांसि नः।।

आधुनिकजगति संस्कृतम्

राष्ट्रीयसंस्कृतसंस्थानसदृशसमूहानां माध्यमेन भारतसर्वकारः संस्कृतस्य प्रचारं करोति, पाठ्यक्रमे च ऐच्छिकं करोति। संस्कृतादीनां शास्त्रीयभाषाणां समकालीनशिक्षणव्यवस्थासु समावेशार्थं नूतनशिक्षानीतिः 2020 तयोः महत्त्वं प्रकाशयति।

ततश्च भारतस्य अनेकाः पारम्परिकाः कलाः संस्कृतभाषायाः आधारेण सन्ति, यत् केवलं लिखितभाषायाः अपेक्षया अधिकम् अस्ति। संस्कृतसाहित्यस्य, सङ्गीतस्य च विषयाः लयश्च ओडिस्सी, भरतनाट्यम्, कुचिपुडी च विस्तृतनृत्यशैल्याः प्रमुखं प्रेरणास्रोतरूपेण कार्यं कुर्वन्ति। संस्कृतश्लोकाः सामान्यतया हिन्दुस्तानी-कर्नाटक-भक्ति-संगीतयोः समावेशिताः भवन्ति, येन तेषां भावात्मकः आध्यात्मिकः च प्रभावः वर्धते। भाषा विशेषतया काव्यस्य प्रदर्शनस्य च कृते उपयुक्ता अस्ति यतोहि तस्याः गीतगुणः, लयात्मकः प्रतिमानः, भावगहनता च अस्ति, येन कलाकाराः गहनविचाराः, भावनाः च वक्तुं समर्थाः भवन्ति, एवं संस्कृतस्य आधुनिकसमाजस्य स्थायि महत्त्वं भारतस्य समृद्धसांस्कृतिकविरासतां रक्षणाय प्रवर्धने च यथा निर्णायकं भूमिकां निर्वहति तया प्रदर्श्यते।

संस्कृतसाहित्ये नैतिकमूल्यस्य पोषणम्

संस्कृतभाषा अस्माकं देशस्य संस्कृतेः प्रतिनिधिः अस्ति। न केवलं भारतीयाः विदेशीयाः अपि संस्कृतभाषायाः अध्ययनं कुर्वन्ति। संस्कृतभाषायाः बोधनं, प्रचारः, रक्षणं च सर्वेषां भारतीयानां म हत्वपूर्ण कर्तव्यम् अस्ति। संस्कृत सहित्यम् अतीव गम्भीरं तथा ऐतिहासिकम् अस्ति।

वयसः परं संस्कृतं सांस्कृतिकसेतुः, दार्शनिकपुस्तिका, भाषाविस्मयम् च अस्ति। यस्मिन् काले आधुनिकता प्रायः परम्-परां आच्छादयति, तस्मिन् काले संस्कृतेन अस्माकं धरोहरस्य, अस्माकं पूर्वजानां बौद्धिकसाधनानां च स्मरणं भवति। सर्वेऽपि महत्त्वपूर्णाः प्राचीनभारतीयग्रन्थाः, यथा पूज्यवेदाः, उपनिषदः, पुराणाणि, स्मृतिः च संस्कृतेन एव लिखिताः, येन एषा प्राचीनभाषा विशालसाहित्यसमूहस्य आधारः अभवत् प्राचीनभारतीयसमाजस्य विस्तृतं ज्ञानं दार्शनिकगहनता च एतेषु ग्रन्थेषु प्रतिबिम्बिता अस्ति, येषु विस्तृतविषयान् आच्छादयति, राजनीतिः, खगोलशास्त्रं, चिकित्साशास्त्रं, तत्वमीमांसा, नीतिशास्त्रं, अध्यात्मं च इत्यादीनां

विषयाणां निरंतराध्ययनं प्रचलति। अतीतस्य सम्मानं कृत्वा शिक्षमाणं भविष्यं निर्मातुं शक्यते।

ज्ञानं यस्य समीपे स्यात् मदस्तस्मिन्न विद्यते।
यस्य पार्श्वे भवेत् गर्व:ज्ञानं तस्य कुतो भवेत्।।

वीनां योगदानं च भाषाया: राष्ट्रगौरव:

महर्षि वेदव्यास:, महर्षि वाल्मीकि:, महाकवि कालिदास: इत्यादय: महाकवय: स्वग्रन्थरत्नै: संस्कृतसाहित्यं समृद्धम् अस्ति इति लिखितवन्त:। एषा भाषा अस्माभि: मातृसमं वन्दनीया, यतो हि भारतमातु: अखण्डता, स्वातन्त्र्यं, सांस्कृतिकैकत्वं च संस्कृतेनैव संरक्षितुं शक्यते। अत: भाषासु मुख्या, मधुरा, दिव्या, गीर्वाणभारती इति संस्कृतभाषा सर्वेषां भाषाणां मध्ये श्रेष्ठतमा इति नि:संशयं स्थापितम् अस्ति।

^ì`Vm`m... अभावेऽपि संस्कृतस्य आलोचना कृता अस्ति। केषाञ्चन मते नियमितरूपेण तस्य राजनीतिकरणं भवति अथवा सांस्कृतिकप्रभुत्वस्य रणनीतिरूपेण उपयोग: भवति। अन्ये तु संस्कृतस्य पुनरुत्थानं प्रशंसनीयं चेदपि पाली, प्राकृत, तमिल इत्यादिषु अन्येषु शास्त्रीयभारतीयभाषासु अपि तथैव स्तरं ध्यानं दातव्यम् इति वदन्ति। संस्कृतशिक्षणम् अतिदुष्करम् इति विचार: अन्य: सामान्य: भ्रम:। व्याकरणं सटीकं जटिलं च अस्ति चेदपि आधुनिकशिक्षणपद्धत्या तस्य अवगमनं बहु सरलं जातम्। संस्कृतशिक्षणेन भाषाप्रवीणताया: अतिरिक्तं तार्किकतर्क:, स्मृति:, ध्यानं च वर्धते।

उपसंहार:

यस्मिन् काले आधुनिकता प्राय: परम्पराम् आच्छादयति, तस्मिन् काले संस्कृतेन अस्माकं धरोहरस्य, अस्माकं पूर्वजानां बौद्धिकसाधनानां च स्मरणं भवति। संस्कृतस्य पुनरुत्थानम् न पश्चात् गमनम् अपितु अतीतानां आदरं कृत्वा शिक्षमाणस्य भविष्यस्य निर्माणम् अवश्यं करणीयम्।

यस्य कृत्यं न जानन्ति मन्त्रं वा मन्त्रितं परे।
कृतमेवास्य जानन्ति स वै पण्डित उच्यते।।

Pushkar Vithal, 1A

मैं हूँ

मैं कौन हूँ
हार और जीत की परिभाषा हूँ
या अपने सपनों की आशा हूँ
किसी की बेटी, दोस्त और प्यार हूँ
या अपनी खुद की उम्मीद, हौसला और यार हूँ!

कर्मों से बनी हूँ, या धर्मों से बंधी हूँ
नहीं तो मैं तो आज़ाद हूँ
मैं तो जीने की एहसास हूँ
हाँ फैसले मेरे हैं! पर मैं सिर्फ अपने फैसले नहीं
हाँ सफर तय किया है!
पर मैं सिर्फ तय किए फासले नहीं!

गलतियों की धारा भी मैं
हिम्मत की लहर भी मैं
दाग के बूंदें भी मैं
बरकत की सागर भी मैं
राह भी मैं, मंजिल भी मैं
तो फिर किससे भागती हूँ
तो फिर किसके पीछे भागती हूँ!

सब तो मैं ही हूँ और मुझमें सब तो है
फिर किसकी तलाश है मुझे?
हजार सवाल सताए मुझे
पर उनके जवाब तो मैं खुद हूँ
अनगिनत ख्वाहिशें आँखों में भरकर
इस दौड़ में ही कामयाब मैं हूँ!

किसी के ऊपर या किसी की बराबरी करने थोड़ी हूँ मैं
अपने सुकून को गले लगाकर
अपनों के साथ इस हंसी बाँटने मैं हूँ
ना किसकी विचार हूँ ना किसी के भरोसे हूँ
खुद जैसी हूँ जहाँ भी हूँ मैं हूँ और बहुत हूँ
हाँ ये मैं हूँ!

Amana J Kumar, 2K

We Looked Up To You

To Mr. Mohan Belvadi R, Principal and Program Head, BASE.

Brave-hearted, outspoken, ever-smiling friend, fantastic orator, amazing teacher, wonderful guide, cricket lover, inspiring personality, duty-conscious and unforgettable leader... the list goes on when I try to put into words what you meant to us. You did not just lead an institute, but guided an entire community towards knowledge. You gave hope to those who were lost, and your vision stood stronger than stone and iron.

As a son, father, husband, friend, teacher, mentor, Principal, program head, and above all, as a responsible human being—you lived every role with passion, compassion, and dedication. You didn't need words to inspire; your actions spoke louder, moving many towards the right path.

You spoke across barriers of position, age, gender, religion, background, and social status. You transformed hurdles into opportunities and accepted responsibilities with gratitude. From being an industrialist to a corporate professional, and from an academician to an educator, you carried forward your journey with integrity and humility.

Dear Mohan B.R. Sir, you will forever remain in our hearts. Your style of working will continue to guide generations to come. Without doubt, you have left an unfading footprint in the history of BASE.

With gratitude,

Thejesh S
Principal

A Day Off

School

A day off in school always made us so happy. One holiday in the middle of the week meant waking up late, eating a hot breakfast, and going out to play—if our neighbours also had a holiday. What amazed us was that our moms never really got a "day off." They were busy with work as usual. Afternoons were the best, because we could either sleep or run outside to play. The best part was no homework on such days, so evenings were for playing or watching TV. For us 90's kids, TV mostly meant DD1—Door Darshan.

College

In college, a day off was not the same excitement. We didn't like to be at home; we preferred to spend time with friends. For hostel students, a day off meant cleaning the room, washing clothes, arranging the wardrobe, or catching up on pending assignments if deadlines were close. Sometimes, it was the best chance to plan a short trip with friends. For those who stayed at home, it could feel worse—parents always reminding them to do chores or take up some responsibility.

Work

At the start of work life, a day off felt like an extra holiday apart from the weekend. We wanted to meet old friends, hang out, and share new stories about work. But later in the career, a day off started to feel like school again. The same joy of waking up late, eating a slow meal, finishing pending chores, watching TV, and then suddenly realising by evening that one day is never enough.

Retirement

A day off after retirement? Well, retirement itself is like a permanent day off. I can't really write much about it yet.

In every stage of life, a day off carries its own meaning. Someone once said, "As we grow old, we start doing the same things we did in our childhood." I think it's true. The happiness of a day off in school, and later in work life, feels almost the same.

Ms. Pooja Naik, Vice Principal

90s kids – A trip down the most colorful memory lane

There is something special about being a 90s kid that makes our hearts brim with joy. Born in a time when technology was just knocking the door but had not taken over yet, we lived the best of both worlds – analog simplicity and beginning of digital magic.

If you grew up in the 90s, welcome to a time capsule of unforgettable memories:

The school days that shaped us:

- Those were the days when Nataraj pencils, camlin geometry boxes and brown paper covered notebooks were our prized possessions.
- Waiting for promotion to 4th standard so that we can write books with ink pen.
- Birthday gift was a Hero pen by default.
- Sitting for lunch with 10 to 12 people around and passing on the cap of lunch box so that we can taste each and every home made food.
- Waiting for the school time to end just to run towards the food stalls waiting outside the school to sell a guava/mango with chilli for 1 rupee, bhelpuri for 3 to 5 rupees, Bombay mithai for 2 rupees and so on.
- Chats were available for Rs 5 and Masala Dosa for Rs 10
- Summer holidays were for entry to power cuts.

TV Shows that made our childhood:

- Shaktimaan was our superhero before Marvel was even a thought.
- Tom and Jerry never gets old.
- Chitrahaar, Mahabharat were watched with the whole family.
- Small wonder, Dekhbhaidekh, Hum paanch, Tutu main main, All the best brought smiles after homework hours.
- One after the other Ekta Kapoor serials. (The K girl)

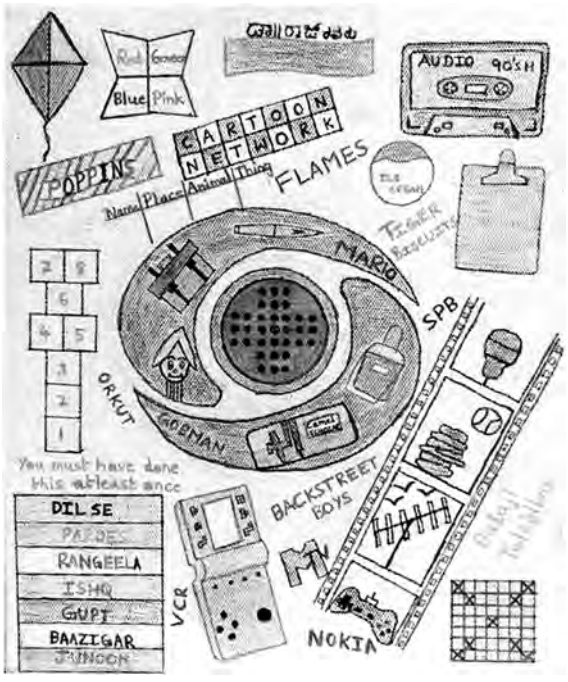
The games that didn't need screens:

- We were the last generation that truly played outside. Streets turned into playgrounds with:
  - Lagori
  - Gillidandu
  - Kho kho
  - Kabaddi
  - Hide and seek etc

- **Indoor games we had were:**
  - Snake and ladder
  - Ludo
  - FLAMES
  - Business
  - Raja, rani, thief and police etc.

Technology but not too much:

- We lived through VCRs, floppy disks, CD and DVD players, renting few CDs.
- Accumulating cassettes of all the favorite hit numbers (Those evergreen songs never get old).



- Video games like Mario, circus, road fighter etc were our adventure games.
- Road rash, Dave, Alladin, Gobman, Minesweeper etc on Windows 98.
- Orkut was our intro to social media.
- Nokia 1100 with snake was a status symbol.
- Walkman and cassette tapes made us feel like DJs.
- Made greeting cards by hand.
- Maintain a dairy which had almost all the landline numbers and had few numbers recorded in mind.
- Communicating through post cards, inland letters and Telegram where one word cost one rupee.

Festivals and family time:

- Festivals meant togetherness than hashtags.
- Bursting crackers with cousins.
- Going to neighbourhood to get a glimpse of Ganesha on GaneshaChaturthi.
- Exchange of yellubella during Sankranti.
- Preparing friendship bands at home.
- Tying rakhi even in school.

Things we miss the most:

- Tape recorders, school diaries, slam books.
- Birthday parties with chips, samosas and rasna.
- Real friendships – no filters, no followers, just fun.
- Renting bicycles to go for a round in our area.

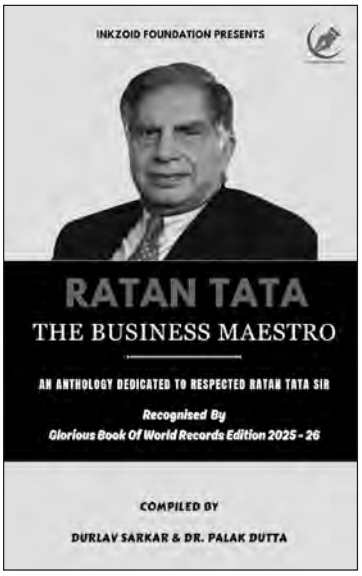
We are the last generation to grow up without social media, but the first to embrace it in our 20s.

We witnessed change, adapted to it and still hold on to the values, fun and simplicity that made our childhood so beautiful. We aren't just nostalgic, we are the bridge between tradition and technology, innocence and independence.

Here is to all the 90s kids – may we never forget our roots and may we always cherish our analog hearts in this digital world.

Pooja H R
Department of Electronics

My Homage to Sir



When the world slept with dreams,
His actions gave it a stream.

As he endeavored to strive,
Reinforcing enation to thrive.

No resent, no whine.
He wanted the nation to shine.

His endless efforts and humility,
Forging for many families to create stability.

He was a reincarnated rendition of a superior human,
Born to bring about a difference like a Numen.

His name, a brand indeed,
We remember him with his yeoman deed.

He made it big without any gig,
He left a legacy in a swig.

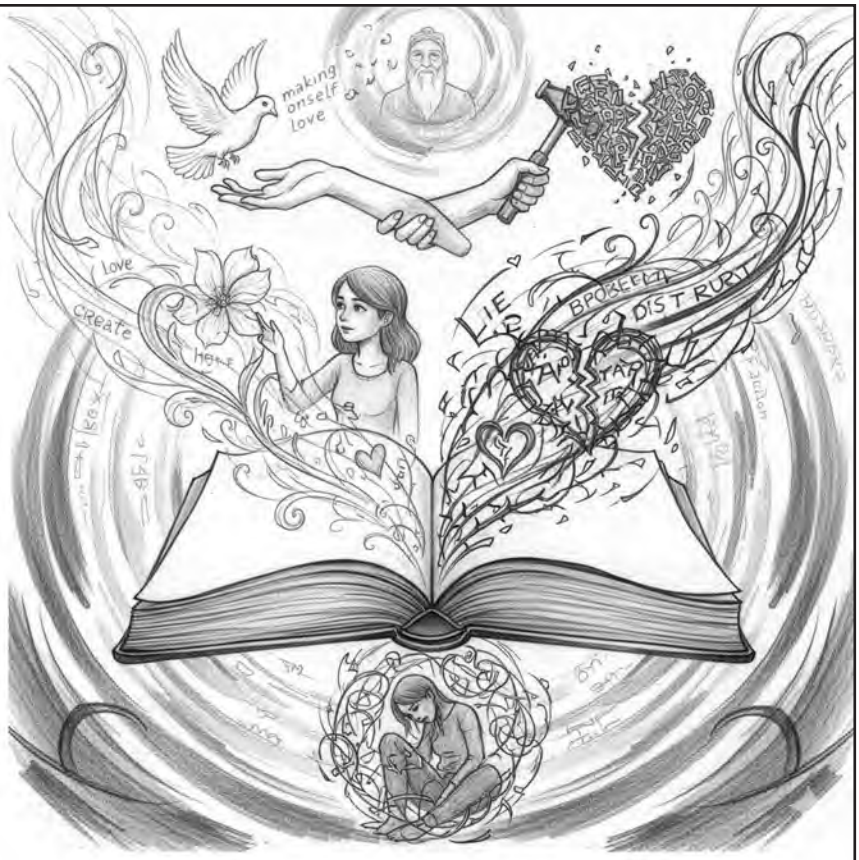
We have seen Mahatma and witnessed Shri Ram,
Beyond words can explain he has no scam.

Simplicity was his name,
He left fame, no reframe.

Ratan was born to live and love,
His exit never endured like there was no Tata!

Hema N
Department of English

WORDS



Words are beautiful.
A magical element gifted by God.
The language of the mind,
The language of the feelings.

To make oneself love,
To fall and express love.

To appreciate beauty,
To be grateful.

To console oneself and others,
To believe in oneself.

Words are powerful.
It can make one fall in love,
It can break one's heart.

From losing trust,
To losing self-confidence.

From believing in everything,
To believing everything is a lie.

From believing everything,
To accepting everything.

Words are meaningful,
But also, hollow.
From making promises of a lifetime,
To breaking them in a second.

Words are playful.
Intelligent people know how to play with them,
And weak people fall in trap of them.

Samrita Adhikary
Department of English

ಗೋವಾ ಮುಕ್ತಿ

ಭಾರತದ ದಕ್ಷಿಣ–ಪಶ್ಚಿಮದಲ್ಲಿರುವ ಚಿಕ್ಕ ಸಮೃದ್ಧ ರಾಜ್ಯ ಗೋವಾ ಕೇವಲ ಭಾರತದ ವೀಕ್ಷಕರಲ್ಲದೆ ಹೊರದೇಶದ ಜನರ ಪ್ರವಾಸಿ ತಾಣ. ಇದು ಪ್ರತೀ ವರ್ಷವೂ ಜನರೂ ತಮ್ಮ ಮೋಜುಮಸ್ತಿಗಾಗಿ ಹುಡುಕಿಕೊಂಡು ಬರುವ ಸ್ಥಳ. ಗೋವಾ ಭಗವಾನ್ ಪರಶುರಾಮರ ನೆಲ, ಆದರೆ ಇದರ ಕುರುಹನ್ನು ಪೋರ್ಚುಗೀಸರು ಅಳಿಸಿದ್ದಾರೆ. ಮಹಾಭಾರತದಲ್ಲಿ 'ಗೋವಾ ರಾಷ್ಟ್ರ', ಅಂದರೆ ಗೋಪಾಲಕರ ಭೂಮಿ ಎಂದು ಕರೆಯುತ್ತಿದ್ದರು. ಆದರೆ, ಕಲ್ಪನೆಗೂ ಮೀರಿದ, ಊಹೆಗೂ ಮೀರಿದ ವಿಷಯವೇನೆಂದರೆ ಗೋವಾಗೆ ಭೇಟಿ ಕೊಡಬೇಕೆಂದರೆ. ವೀಸಾ, ಪಾಸ್‌ಪೋರ್ಟ್‌ಗಳ ಅಗತ್ಯವಿದ್ದ ಕಾಲ ಅದು

ಕ್ರಿ.ಶ. 1947ರಲ್ಲಿ. ಭಾರತ ಸ್ವತಂತ್ರ ಸಂಭ್ರಮದ ಸಮಯದಲ್ಲೂ ಇತ್ತು ಏಕೆಂದರೆ ಆಗ ಇನ್ನು ಗೋವಾ ಪೋರ್ಚುಗೀಸರ ಅಧೀನ ದಲ್ಲಿತ್ತು ಆಶ್ಚರ್ಯದ ವಿಷಯವೇನೆಂದರೆ. ಆಗಿನ ಭಾರತ ಸರ್ಕಾರ ಅಂದರೆ ಸ್ವತಂತ್ರ ಭಾರತ ಸರ್ಕಾರ ಇದರ ಬಗ್ಗೆ ಯೋಚನೆಯನ್ನೇ ಮಾಡಿರಲಿಲ್ಲ ನೆನಪಿರಲಿ ಆಗ ನೆಹರೂ ಪ್ರಧಾನ ಮಂತ್ರಿಯಾಗಿದ್ದರು.

ಫ್ರೆಂಚರ ಅಧೀನದಲ್ಲಿದ್ದ ಚಂದ್ರನಗರ, (ಪ.ಬಿಂ)., ಪಾಂಡಿಚೆರಿ ಇವುಗಳೆಲ್ಲಾ ಸ್ವತಂತ್ರವಾದವು. ಆದರೆ ಗೋವಾ ಇನ್ನೂ ಪೋರ್ಚುಗೀಸರ ಅಧೀನದಲ್ಲಿತ್ತು. ಇದರ ಜೊತೆಗೆ ದಾದರ್, ನಗರ್‌ಹವೇಲಿ, ದಮನ್ ಮತ್ತು ದೀವು ಈ ಪ್ರದೇಶಗಳ ಮೇಲೂ ಕೂಡ ಪೋರ್ಚುಗೀಸರ ಪಾರುಪತ್ಯವಿತ್ತು. ಗೋವಾದಲ್ಲಿ ಆಗ ಭಾರತೀಯ ಸಂಸ್ಕೃತಿ ಬಿಂಬಿಸುವ ದೇವಾಲಯಗಳು ಮಂಟಪಗಳೂ. ಇವೆಲ್ಲ ಪೋರ್ಚುಗೀಸರ ಆಡಳಿತದಲ್ಲಿ ನಾಶವಾದವು ವೀರಸಾವರ್ಕರ್ ಅವರು ತಮ್ಮ 'ಗೋಮಾಂತಕ' ಖಂಡಕಾವ್ಯದಲ್ಲಿ ಪೋರ್ಚುಗೀಸರ ಈ ಅತ್ಯಾಚಾರವನ್ನು ವರ್ಣಿಸಿದ್ದಾರೆ. ಸುಮಾರು 14ನೇ ಶತಮಾನದಲ್ಲಿ ಮುಸ್ಲಿಮರ ಆಕ್ರಮಣವೂ ಕೂಡ ಆಗಿತ್ತು ಆದರೆ ಆಗ ವಿಜಯನಗರದ ಅರಸ ಪ್ರಥಮ ಹರಿಹರ ಅವರನ್ನು ಓಡಿಸಿದ್ದ. ಆದರೆ 100 ವರ್ಷಗಳ ನಂತರದಲ್ಲಿ ಇಸ್ಲಾಂ ಅರಸರು ಗೋವಾವನ್ನು ತಮ್ಮ ತೆಕ್ಕೆಗೆ ತೆಗೆದುಕೊಂಡರು.

ಕ್ರಿ.ಶ. 1510ರಲ್ಲಿ ಪೋರ್ಚುಗೀಸರ ಆಗಮನವಾಯಿತು ನಿಧಾನವಾಗಿ ಅವರು ತಮ್ಮ ಕಾಲೋನಿಗಳನ್ನು ಸ್ಥಾಪಿಸಿದರು ಅವರ ಉದ್ದೇಶ ಭಾರತೀಯ ಸಂಸ್ಕೃತಿಯ ನಾಶ ಹಾಗೂ ಹಿಂದೂಗಳನ್ನು ಕ್ರಿಶ್ಚಿಯನ್ನರಾಗಿ ಮತಾಂತರ ಮಾಡುವುದು ಇದಕ್ಕೋಸ್ಕರ ಅವರು ಬಲವಂತವಾಗಿ ಹಿಂದೂಗಳನ್ನು ಪೀಡಿಸುತ್ತಿದ್ದರು. ಅವರು Inquisitionನ್ನು ಕ್ರಿ.ಶ. 1560 ರಲ್ಲಿ ಪ್ರಾರಂಭಮಾಡಿದರು ಇದೇನೆಂದರೆ ಚರ್ಚ್‌ನಿಂದ ಮಾಡಿದ್ದ ಒಂದು ಪದ್ಧತಿ ಇದರಿಂದ ಹಿಂದೂಗಳನ್ನು ಕ್ರಿಶ್ಚಿಯನ್ನರಾಗಿ ಮಾಡುವುದು. ಯಾವ ಹಿಂದೂ ಇದಕ್ಕೇ ವಿರೋಧ ವ್ಯಕ್ತಪಡಿಸಿತ್ತಿದ್ದನೋ ಅವನನ್ನು ಹಿಂಸಿಸುತ್ತಿದ್ದರು ಹೇಗೆಂದರೆ

1. ಅವರ ದೇಹವನ್ನು ತಲೆಕೆಳಗೆಮಾಡಿ ಭರ್ಜಿಯಿಂದ ಚುಚ್ಚುವುದು.
2. ಕೈ–ಕಾಲು ಚಕ್ರಕ್ಕೆ ಬಂಧಿಸಿ ಅವರನ್ನು ಚುಚ್ಚಿ ಹಿಂಸಿಸುವುದು.
3. ದೇವಸ್ಥಾನಗಳನ್ನು ಧ್ವಂಸಮಾಡುವುದು
4. ಧಾರ್ಮಿಕ ಆಚರಣೆಗಳಿಗೆ ಪ್ರತಿಬಂಧಿಸುವುದು

(ಈ ಆಕ್ರಮಣ, ಈ ಪದ್ಧತಿ ಕೇವಲ ಪೋರ್ಚುಗೀಸರ ಕಾಲೋನಿಯದ್ದಲ್ಲ ಇದಕ್ಕೆ ಪೋಪ್ ಆದೇಶ ಕೂಡ ಇತ್ತು ಇವರ ಉದ್ದೇಶ ಕ್ರಿಶ್ಚಿಯನ್ ಧರ್ಮಸ್ಥಾಪನೆ ಅದಕ್ಕೋಸ್ಕರ ಇಲ್ಲಿಯ ಜನರ ಭೂಮಿ, ಸಂಪತ್ತು ಲೂಟಿ ಮಾಡಿದರು ಯುರೋಪ್‌ನಲ್ಲಿ ಈ ಪೋರ್ಚುಗೀಸರು ಭಾರತೀಯರನ್ನು ಹಳೇಸಂಪ್ರದಾಯದ ಕಚಿರಚಿಟಿ ಎಂದು ಕರೆಯುತ್ತಿದ್ದರು.)

ಭಾರತ ಸ್ವಾತಂತ್ರ್ಯ ಸಂಗ್ರಾಮದಲ್ಲಿ ಗೋವ ಜನರ ಪಾಲು ದೊಡ್ಡದು 20ನೇ ಶತಮಾನದ ಆರಂಭದಲ್ಲಿ ಲೋಕಮಾನ್ಯ ತಿಲಕರು ಈ ಸಂಗ್ರಾಮದ ನೇತೃತ್ವವಹಿಸಿದರು ಅವರು ಆರಂಭಿಸಿದ್ದ ಪತ್ರಿಕೆಗಳಾದ 'ಕೇಸರಿ' ಹಾಗೂ 'ಮರಾಠ' ದೇಶದ ಜನರನ್ನು ಜಾಗೃತಗೊಳಿಸಿತು. ಆದರೆ ಭಾರತ ಸ್ವಾತಂತ್ರ್ಯದ ಜೊತೆಗೆ ಗೋವಾ ಮುಕ್ತಿಯ ಕನಸು ಕನಸಾಗೇ ಉಳಿಯಿತು. ಏಕೆಂದರೆ ಪೋರ್ಚುಗೀಸ್ ಆಡಳಿತ ಸ್ವಾತಂತ್ರ್ಯ ನೀಡುವುದನ್ನು ನಿರಾಕರಿಸಿತು. 18.06.1946ರಂದು ಸಮಾಜವಾದಿ ನೇತಾರ ರಾಮ್ ಮನೋಹರ್ ಲೋಹಿಯಾ ಅವರು ಗೋವಾದಲ್ಲಿ ನಾಗರಿಕ ಅವಜ್ಞಾ ಆಂದೋಲನ (Civil disobidience Movement) ಪ್ರಾರಂಭ ಮಾಡಿದರು. ಇದು ನಂತರ ಸಂಘರ್ಷವಾಗಿ ಮಾರ್ಪಟ್ಟಿತ್ತು. ಭಾರತದ ಸ್ವಾತಂತ್ರ್ಯನಂತರ ಗೋವಾ ಮುಕ್ತಿಗೆ ಕೂಗು ಹೆಚ್ಚಾಗುತ್ತಾ ಹೋಯಿತು.

ಗೋವಾ ಜನರ ನೆಮ್ಮದಿಗೆ, ಹಲವಾರು ಸ್ವಾತಂತ್ರ್ಯ ಸೇನಾನಿಗಳು ತಮ್ಮ ಸಹಯೋಗ ನೀಡಿದರು ಇವರನ್ನು ಸತ್ಯಾಗ್ರಹಿಗಳು ಎಂದರು. ಇವರ ಮೇಲೆ ಪೋರ್ಚುಗೀಸರ ದೌರ್ಜನ್ಯ ಹೆಚ್ಚಾಗುತ್ತಾ ಹೋಯಿತು. ಇಡೀ ದೇಶದ ಜನರ ಭಾವನೆ ಯಾವ ಮಟ್ಟಕ್ಕೆ ಹೋಯಿತ್ತು ಎಂದರೆ ಹೇಗೆ ಹೈದರಾಬಾದ್ ಮುಕ್ತಿಗೆ ಮಿಲಿಟರಿ ಶಕ್ತಿ ಉಪಯೋಗಿಸಬೇಕಾಯಿತೋ ಹಾಗೆ ಗೋವಾದಲ್ಲಿ ಜಾರಿ ಮಾಡಿದರೆ ಮುಕ್ತಿಯ ಹಾದಿ ಸುಗಮವಾಗುತ್ತದೆಂದು. ಆದರೆ ಆಗಿನ ಭಾರತದ ತತ್ಕಾಲೀನ ಪ್ರಧಾನಿಯಾಗಿದ್ದ ನೆಹರೂಗೆ ಇದು ಇಷ್ಟವಿರಲಿಲ್ಲ ಏಕೆಂದರೆ ಇದರಿಂದ ಅವರ ಘನತೆಗೆ ಅಂತಾರಾಷ್ಟ್ರೀಯ ಮಟ್ಟದಲ್ಲಿ ಕುಂದು ಬರುತ್ತದೆಂದು ಅವರು ಸತ್ಯಾಗ್ರಹಿಗಳಿಗೆ ಬೆಂಬಲ ಕೊಡುವುದರ ಬದಲು ಸಾರ್ವಜನಿಕವಾಗಿ ಅವರ ಉತ್ಸಾಹ ಕುಂದಿಸುವ ಪ್ರಯತ್ನ ಮಾಡುತ್ತಿದ್ದರು ಇದು ಯಾವ ಮಟ್ಟಕ್ಕೆ ಹೋಯಿತ್ತೆಂದರೆ. ಅವರು ಕೆಂಪುಕೋಟೆಯಲ್ಲಿ ತನ್ನ ಭಾಷಣದಲ್ಲಿ ಗೋವಕ್ಕೆ ಸೈನ್ಯಕಳುಹಿಸುವುದಿಲ್ಲವೆಂದು ಘೋಷಿಸಿದರು. ಈ ವ್ಯಕ್ತಿಯ ಶಾಂತಿಯ ಮಾತುಕತೆಯ. ಬಿನ್ನಹವನ್ನು ಪೋರ್ಚುಗೀಸ ಸರ್ಕಾರ ಸ್ವೀಕರಿಸಲಿಲ್ಲ.

ಈತ ತನ್ನ ಬಾಷಣದಲ್ಲಿ ಹೀಗೆಂದಿದ್ದರು.

"ಈ ಗೋವಾ ಸಮಸ್ಯೆ ಅಥವಾ ಇನ್ನಿತರ ಸಮಸ್ಯೆಯನ್ನು ಮಾತುಕತೆಯ ಮುಖಾಂತರ ಬಗೆಹರಿಸಲಾಗುವುದು ಯಾವುದೇ ಕಾರಣಕ್ಕೂ ಮಿಲಿಟರಿಯನ್ನು ಗೋವಾಕ್ಕೆ ಕಳುಸುವುದಿಲ್ಲ ನಾವು ಶಾಂತಿಯಿಂದ ಈ ಸಮಸ್ಯೆಯನ್ನು ಬಗೆಹರಿಸಿಕೊಳ್ಳಲಿದ್ದೇವೆ. ಯಾರು ಕೂಡ ಸೈನ್ಯ ಗೋವಾಕ್ಕೆ ಹೋಗಿ ಅದರ ಮುಕ್ತಿಗೆ ನಾಂದಿಹಾಡುತ್ತದೆ. ಎಂಬ ಭ್ರಮೆಯಲ್ಲಿರುವುದು

ಬೇಡ ಏಕೆಂದರೆ ಈ ವಿಷಯದಲ್ಲಿ ಒಮ್ಮೊಮ್ಮೆ ಹೊರಗಿನವರು ಬರುತ್ತಾರೆ. ಒಮ್ಮೊಮ್ಮೆ ಹಾಗು ಭಾರತೀಯರು ಅಲ್ಲಿಯ ಜನರು (ಗೋವಾ ಜನರು) ಹೀಗೆ ಆಶಾಪರರಾಗಿದ್ದಾರೆ. ಆದರೆ ನಾವು ಸೈನ್ಯವನ್ನು ಕಳುಹಿಸುವುದಿಲ್ಲ ಇದನ್ನು ಶಾಂತಿಯಿಂದ ಬಗೆಹರಿಸಿಕೊಳ್ಳುವುದು".

ಆದರೆ ದಿಲ್ಲಿಯ ಸರ್ಕಾರದ ನಿರ್ಧಾರವೇನೇ ಇರಲಿ ದೇಶದ ಜನರು ಗೋವಾ ಮುಕ್ತಿಗೆ ಪಣ ತೊಟ್ಟಿದ್ದರು. ಮಹಾರಾಷ್ಟ್ರ, ಕರ್ನಾಟಕ, ಮಧ್ಯಪ್ರದೇಶದಿಂದ ಸಾವಿರಾರು ಜನರು ಈ ಸತ್ಯಾಗ್ರಹದಲ್ಲಿ ಪಾಲ್ಗೊಂಡರು.

ಗೋವಾದ ಬಗ್ಗೆ ನೆಹರೂಗೆ ಇದ್ದಂತಹ ಉದಾಸೀನತೆ, ತಾತ್ಸಾರದಿಂದ ಆಕ್ರೋಶಗೊಂಡಿದ್ದು ಆರ್.ಎಸ್.ಎಸ್. (RSS) ಹಾಗೂ ಜನರ ಬೆಂಬಲಕ್ಕೆ ನಿಂತಿದ್ದು. ಆರ್.ಎಸ್.ಎಸ್. ಸಂಘದ ಪ್ರಮುಖರಾದಂತಹ ಜಗನ್ನಾಥ್‌ರಾವ್ ಜೋಷಿ, ಸುಧೀರ್‌ಫಡ್‌ಕೆ. ಈ ಆಂದೋಲನದಲ್ಲಿ ಧುಮುಕಿದರು. ಪ್ರಸಿದ್ಧ ಸಂಗೀತಗಾರರಾದಂತಹ ಸುಧೀರ್ ಫಡ್‌ಕೆ ಧನಸಂಗ್ರಹದ ಜವಾಬ್ದಾರಿವಹಿಸಿಕೊಂಡರು. ಇದಕ್ಕೋಸ್ಕರ ಅವರು ಲತಾಮಂಗೇಶ್ಕರ್. ಅವರಿಗೆ ಪುಣೆಯಲ್ಲಿ ಕಾರ್ಯಕ್ರಮ ನಡೆಸುವಂತೆ ನಿರ್ದೇಶಿಸಿದರು. ಇದರಿಂದ ಬಂದಂತಹ ಧನವನ್ನು ರಾಷ್ಟ್ರಕ್ಕೆ, ಆಂದೋಲನಕ್ಕೆ ಉಪಯೋಗಿಸುವುದಾಗಿತ್ತು.

ಗೋವಾದ ಮುಕ್ತಿಗೆ ಹೋರಾಡುತ್ತಿದ್ದಂತಹ ಸೇನಾನಿಗಳು ಆಜಾದ್ ಗೋಮಾಂತಕ ಎಂಬ ಸಂಘಟನೆಯನ್ನು ಹುಟ್ಟುಹಾಕಿದರು ಇದರಲ್ಲಿ ಹೆಚ್ಚಿನವರು ಆರ್.ಎಸ್.ಎಸ್. ನವರಾಗಿದ್ದರು. ಇವರ ಶ್ರಮದ ಫಲದಿಂದ. ದಾದಾ. ನಾಗರ್‌ಹವೇಲಿ ಪೋರ್ಚುಗೀಸರಿಂದ ಮುಕ್ತಿ ಪಡೆದುಕೊಂಡಿತ್ತು.

13 ಜೂನ್ 1955 ಕರ್ನಾಟಕದ ಆರ್.ಎಸ್.ಎಸ್. ಕಾರ್ಯಕರ್ತ ಜಗನ್ನಾಥ್‌ರಾವ್ ಜೋಷಿ ಗೋವಾ ಸತ್ಯಾಗ್ರಹದ ಘೋಷಣೆ ಮಾಡಿದರು. ಅದರಲ್ಲಿ ಸುಮಾರು 3000 ಸತ್ಯಾಗ್ರಹಿಗಳಿದ್ದರು ಹೆಚ್ಚಿನವರು ಮಹಿಳೆಯರಿದ್ದರು. ಇವರ ಮೇಲೆ ಪೋರ್ಚುಗೀಸರ ಸೈನಿಕರು ಗುಂಡಿನಮಳೆ ಕರೆದರು. ಇದರಿಂದ ಸುಮಾರು 51 ಜನ ಸತ್ಯಾಗ್ರಹಿಗಳು ಹತರಾದರು ಹಾಗೂ 300 ಕ್ಕೂ ಹೆಚ್ಚು ಗಾಯಗೊಂಡರು. ಈ ಘಟನೆ ಇಡೀ ಭಾರತವನ್ನೇ ಆಕ್ರೋಶಭರಿತವಾಗಿಸಿತು.

ಒಂದು ಕಡೆ ದೇಶದ ಭಾಗವಾದ ಗೋವಾವನ್ನು ಪಡೆದು ಕೊಳ್ಳುವುದಕ್ಕೆ ಸತ್ಯಾಗ್ರಹಿಗಳು ಹೋರಾಟ ಮಾಡುತ್ತಿದ್ದರೆ ಮತ್ತೊಂದೆಡೆ ಕಾಂಗ್ರೆಸ್ ತನ್ನ ಕಾರ್ಯಕರ್ತರಿಗೆ ಈ ಆಂದೋಲನದಿಂದ ದೂರ ಇರುವಂತೆ ಹೇಳಿತು.

ಗೋವಾ ಆಂದೋಲನದ ಬಗ್ಗೆ ಕಾಂಗ್ರೆಸ್ ಕಾರ್ಯಸಮಿತಿಯ ಪ್ರಸ್ತಾವ ಹೀಗಿತ್ತು (ದಿ॥ 23 ಜುಲೈ 1955)

1. ಗೋವಾದ ಜನಗಳೇ ಸಮಸ್ಯೆಯನ್ನು ಬಗೆಹರಿಸಿಕೊಳ್ಳಲಿ
2. ಬೇರೆ ರಾಜ್ಯದಿಂದ ಜನರ ಬೆಂಬಲ ಇದಕ್ಕೆ ಬೇಡ
3. ಈ ಸಮಸ್ಯೆಯನ್ನು ಶಾಂತಿಯಿಂದ ಬಗೆಹರಿಸಿಕೊಳ್ಳಬೇಕು.

ಕಮ್ಯುನಿಸ್ಟರೂ ಕೂಡ ಕಾಂಗ್ರೆಸ್‌ನ ಈ ನಿರ್ಣಯವನ್ನು ಸ್ವೀಕಾರ ಮಾಡಿದರು.

ನವೆಂಬರ್ 1961ರಂದು. ಸಬರ್‌ಮತಿಯ ಭಾರತೀಯ ನೌಕಾ ಪ್ರಯಾಣಿಕನ ಮೇಲೆ ಪೋರ್ಚುಗೀಸ್ ಸೈನಿಕರು ಗುಂಡು ಹಾರಿಸಿಕೊಂದರು. ಇದರ ಪರಿಣಾಮವಾಗಿ ಆದ ದಂಗೆಯಿಂದ ಹಲವಾರು ಸಾವು ನೋವುಗಳಾದವು ಈ ಘಟನೆ ಇಡೀ ದೇಶವನ್ನು ತಲ್ಲಣಗೊಳಿಸಿತ್ತು. ಈ ಎಲ್ಲಾ ಆಗುಹೋಗುಗಳಿಂದ ನೆಹರೂ ಸರ್ಕಾರ ಸತ್ಯಾಗ್ರಹಿಗಳ ಆಗ್ರಹಕ್ಕೆ ತಲೆಬಾಗಬೇಕಾಯಿತು ಕೊನೆಗೆ ಅಂದರೆ 19 ಡಿಸೆಂಬರ್ 1961 ಭಾರತ ಸೈನ್ಯದ ಕಾರ್ಯಚರಣೆ ಪ್ರಾರಂಭವಾಯಿತು ಇದನ್ನೇ 'ಆಪರೇಷನ್ ವಿಜಯ್' ಎಂದು ಕರೆಯಲಾಯಿತು. ಕೇವಲ 36 ಗಂಟೆಗಳಲ್ಲೇ. ಗೋವಾ ಭಾರತ ಸೈನ್ಯ ಶಕ್ತಿಯಿಂದ ಪೋರ್ಚುಗೀಸರಿಂದ ಮುಕ್ತವಾಯಿತು ಭಾರತದ ತ್ರಿವರ್ಣ ಧ್ವಜ ರಾರಾಜಿಸಿತು.

ಕೇವಲ 36 ಗಂಟೆಗಳಲ್ಲಿ ಆದ ಈ ಮಹಾನ್ ಕಾರ್ಯಕ್ಕೆ ಗೋವಾ ಸುಮಾರು 15 ವರ್ಷಗಳ ಕಾಲ ನರಕವಾಸ ಅನುಭವಿಸಬೇಕಾಯಿತು. ಜನರು ಸೈನ್ಯಶಕ್ತಿಯನ್ನು ಸ್ವಾಗತಿಸಿದರು. ಸಂಭ್ರಮಿಸಿದರು, ಕುಣಿದಾಡಿದರು. ಆದರೆ ಗೋವಾ ಮುಕ್ತಿಯ ನಂತರವೂ ನೆಹರೂ ಸತ್ಯಾಗ್ರಹಿಗಳ ಬಗ್ಗೆ ಮಲತಾಯಿ ಧೋರಣೆ ಇಟ್ಟುಕೊಂಡಿದ್ದರು. ಅವರಿಗೆ ಅನ್ಯ ಸತ್ಯಾಗ್ರಹಿಗಳು (ಸ್ವಾತಂತ್ರ) ಪಡೆದು ಕೊಳ್ಳುತ್ತಿದ್ದ ಪಿಂಚಣಿ ವ್ಯವಸ್ಥೆಯನ್ನು ಕೊಡಲಿಲ್ಲ ಆದರೆ 1998 ರಲ್ಲಿ ವಾಜಪೇಯಿ ಪ್ರಧಾನಮಂತ್ರಿಯಾಗಿದ್ದಾಗ ಗೋವಾ ಸತ್ಯಾಗ್ರಹಿಗಳಿಗೆ ಎಲ್ಲಾ ರೀತಿಯ ಸೌಲಭ್ಯ ಕಲ್ಪಸಿಕೊಟ್ಟರು. ಸ್ವತಂತ್ರ ಸೇನಾನಿಗಳ ಮಾನ್ಯತೆ ನೀಡಿದರು ಗೋವಾ ಮುಕ್ತಿ ವಿಷಯದಲ್ಲಿ ಪಾಶ್ಚಿಮಾತ್ಯ ರಾಷ್ಟ್ರಗಳ ನಿಜರೂಪ ಪತ್ರಿಕೆಗಳ ಮುಖಾಂತರ ಪ್ರಕಟಗೊಂಡಿತು ಸ್ವಾತಂತ್ರ್ಯಯೋಧರ ಹತ್ಯೆಯಾಗುತ್ತಿದ್ದಾಗ, ಅವರ ಮೇಲೆ ದೌರ್ಜನ್ಯವೆಸಗುತ್ತಿದ್ದಾಗ ತೆಪ್ಪಗಿದ್ದ ಅಮೇರಿಕ ಹಾಗು ಬ್ರಿಟಿಷ್ ಪ್ರಸ್‌ಗಳು ಗೋವಾ ಸ್ವತಂತ್ರವಾದಾಗ ಹೀಗೆ ತಮ್ಮ ಢೋಂಗಿತನವನ್ನು ಬಿಂಬಿಸಿದವು.

New York Times (ನ್ಯೂಯಾರ್ಕ್ ಟೈಮ್ಸ್) ಭಾರತದ ಸೈನ್ಯದ ಕಾರ್ಯಾಚರಣೆ ಒಂದು ಆಕ್ರಮಣ ಎಂದು ಕರೆಯಿತು". ಅಂದರೆ ಅಮೇರಿಕನ್ನರ ದೃಷ್ಟಿಯಲ್ಲಿ ನಮ್ಮ ಭಾರತದ ರಾಷ್ಟ್ರದ ಭಾಮಿಯನ್ನು ಪರಕೀಯರಿಂದ ವಶಪಡಿಸಿಕೊಳ್ಳುವುದು ಆಕ್ರಮಣವಂತೆ".

Washington Post (ವಾಷಿಂಗ್ಟನ್ ಪೋಸ್ಟ್) ಭಾರತದಿಂದ ಗೋವಾದ ಮೇಲೆ ಸಾರಿರುವ ಯುದ್ಧ ಅಂದರೆ ನಮ್ಮ ಭೂಮಿಯನ್ನು ನಾವು ವಶಪಡಿಸಿಕೊಳ್ಳುವುದು ಯುದ್ಧವಂತೆ ಬಿಬಿಸಿಯು ಹೇಳಿಕೆ ಹೀಗೆ.

"ಭಾರತದ ಸೈನ್ಯದ ಕಾರ್ಯಚರಣೆ ಕ್ರಿಶ್ಚಿಯನ್ನರ ದಮನ ಮಾಡುವುದಕ್ಕೆ". ಈ ಮೇಲಿನ ಪತ್ರಿಕೆ ಹೇಳಿಕೆಗಳು ಪಾಶ್ಚಿಮಾತ್ಯ ರಾಷ್ಟ್ರಗಳಿಗೆ ಭಾರತದ ಮೇಲೆ ಎಷ್ಟರ ಮಟ್ಟಿಗೆ ದ್ವೇಷ ಇದೆಯೆಂದು ಸಾರಿ ಸಾರಿ ಹೇಳುತ್ತದೆ.

ಗೋವಾದ ಮುಕ್ತಿ ಭಾರತೀಯ ಶಕ್ತಿಯ ಚೈತನ್ಯದ ಪ್ರತೀಕ ಜಾಗೃತ ಸಮಾಜ ಅನ್ಯಾಯದ ವಿರುದ್ಧ ಹೋರಾಡಿದ ಒಂದು ದೊಡ್ಡ ಧರ್ಮಯುದ್ಧ.

ಶ್ರೀಧರ ಎಸ್. ಜಿ
ಉಪನ್ಯಾಸಕರು, ಗಣಿತಶಾಸ್ತ್ರ ವಿಭಾಗ

Estimation of Surface Tension of water with salt and soap

I. SURFACE TENSION

Introduction

Surface tension could be defined as the property of the surface of a liquid that allows it to resist an external force, due to the cohesive nature of the water molecules. Surface tension results from an imbalance of molecular forces in a liquid. At the surface of the liquid, the liquid molecules are attracted to each other and exert a net force pulling them together. The cohesive forces between molecules down into liquid are shared with all neighboring atoms. Those on the surface have no neighboring atom above and exhibit stronger attractive forces upon their nearest neighbor on the surface. The attractive forces produce curvature of liquid surfaces and cause a pressure difference to exist at the curved boundary. High values of surface tension mean the molecules tend to interact strongly.

In general, surface tension decreases with an increase in temperature as cohesive forces decrease with an increase in molecular thermal activity. For example, in molten copper, the surface tension is found to increase with the increase of its temperature [1]. The temperature at which the surface tension of liquid becomes zero is called the critical temperature of the liquid. The surface tension of a liquid depends very largely on the state of its purity. There could be remarkable changes in the surface tension of liquids due to the addition of some impurities. For example, the surface tension of pure water at 20°C is 0.0728 N/m [2]; but when detergent is added, its surface tension reduces to 0.035 N/m [3]. The mechanism for the surface tension decreases with soaps is the accumulation of an excess concentration of soap at the water-air interface.

Effects of impurities on surface tension

- **Increase of surface tension:** inorganic salts.
- **Decrease in surface tension and, once a minimum is reached, no more effect:** surfactants.

Some interesting examples where the effect of surface tension is made use of:

- **Washing with hot water and detergent mixtures:** Hot water is a better cleaning agent because its lower surface tension makes it a better "wetting agent" to get into the pores and fissures rather than bridging them with surface tension. Soaps and detergents reduce the surface tension more drastically than increasing temperature and hence, they are more effective than hot water for cleaning.

Different methods of measurement

Because surface tension manifests itself in various effects, it offers several paths to its measurement. Which method is optimal depends upon the nature of the liquid being measured, the conditions under which its tension is to be measured, and the stability of its surface when it is deformed. An instrument that measures surface tension is called a tensiometer. Different methods are described briefly below [1],

- **Du Nouy ring method:** The traditional method used to measure surface or interfacial tensor. Wetting properties of the surface or interface have little influence on this measuring technique. The maximum pull exerted on the ring by the surface is measured.
- **Wilhelm plate method:** Universal method especially suited to check surface tension over long time intervals. A vertical plate of the known perimeter is attached to a balance, and the force due to wetting is measured.
- **Spinning Drop method:** The technique is ideal for measuring low interfacial tensions. The diameter of a drop within a heavy phase is measured while both are rotated.

- **Capillary rise method:** The end of a capillary is immersed into the solution. The height at which the solution reaches inside the capillaries is related to the surface tension of the liquid.
- **Vibration frequency of levitated drops:** The natural frequency of vibrational oscillations of magnetically levitated drops has been used to measure the surface tension of superfluid4He. This value is estimated to be 0.375 dyne/cm at T = 0 K.

By Smartphone: The method is based on measuring the wavelength of capillary waves of known frequency. The smart phone placed on top of a cup with the liquid, vibro-motor of smart phone excites capillary ripples on the surface of the liquid, which is captured by the smart phone's camera.

Owing to the simplicity of the setup and cost-effectiveness, the capillary rise method is used in this work to estimate the surface tensions of the liquids over a range of temperatures. This technique is discussed below.

Capillarity action:The phenomenon of the rise and fall of the liquid level in the capillary tube is called capillarity. The force between like particles is called cohesive force and that between unlike particles is called adhesive force.

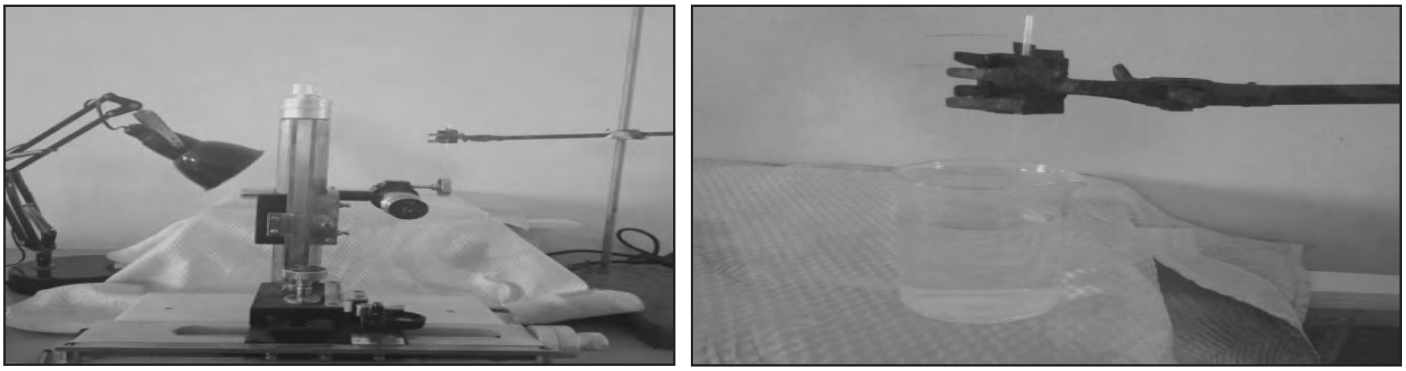
Experimental setup

Experimental setup used in this work. The left figure shows a complete setup and the right

one shows a capillary tube immersed in a beaker containing salt solution.

Variation of Surface tension of salt in water

Experiment: With the known molecular weight of NaCl, water and salt mixtures are prepared at the 0.2 to 1.0 N concentrations. Their surface tensions are measured using the method explained earlier. Densities of the mixtures are estimated using a specific gravity bottle. The data are shown in the table below.



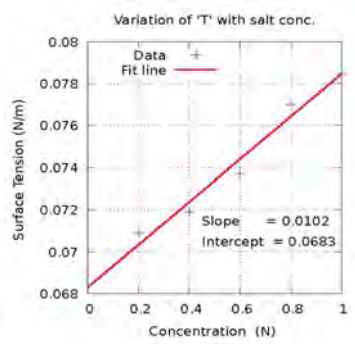
Experimental setup used in this work. The left figure shows a complete setup and the right one shows a capillary tube immersed in a beaker containing salt solution.

Variation of Surface tension of salt in water

Experiment: With the known molecular weight of NaCl, water and salt mixtures are prepared at the 0.2 to 1.0 N concentrations. Their surface tensions are measured using the method explained earlier. Densities of the mixtures are estimated using a specific gravity bottle. The data are shown in the table below.

Sl. No.	Salt concentration in Normality (N)	Height ( ) (cm)	Density ( ) (Kg/m^3)	Surface tension ( ) (N/m)
1	0.2	2.582	1002.200	0.0709
2	0.4	2.615	1013.472	0.0719
3	0.6	2.630	1032.371	0.0737
4	0.8	2.710	1048.497	0.0770
5	1.0	2.742	1057.166	0.0785

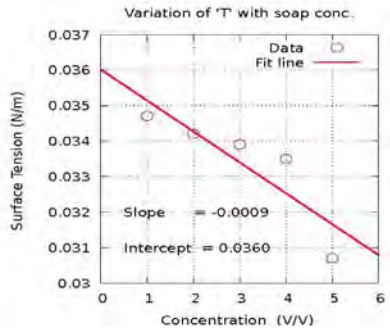
Result: it is found that surface tension of the mixture increases at a rate of 0.0102 N/m per N.



Variation of Surface tension of soap in water

Experiment: As the molecular weight of soap is unknown. Different (V/V) concentration mixtures are prepared by dissolving a known volume of soap in 100 ml of water. Mixtures' surface tensions are measured using the method explained earlier. Densities of the mixtures are estimated using a specific gravity bottle. The data are shown in the table below.

Sl. No.	Soap concentration in (V/V)	Height ( ) (cm)	Density ( ) (Kg/m^3)	Surface tension ( ) (N/m)
1	1	1.273	997.690	0.0347
2	2	1.259	998.208	0.0342
3	3	1.244	998.899	0.0339
4	4	1.228	1000.040	0.0335
5	5	1.158	1003.050	0.0307



A plot of surface tension of water and soap at different (V/V) concentrations as function of concentration is shown in the. It is found that surface tension of the mixture decreases at a low rate of 0.0009 N/m per V/V.

It is observed that, the surface tension of the solution mixture suddenly drops to

0.034 from 0.070. Similar results were obtained even in other works. This is attributed to the presence of different Ingredients in the soap like, Sodium Lauryl Ether Sulphate, Hydantoin, Glycerin, etc.

CONCLUSION:

- The surface tension of the water + salt mixtures Increases with salt concentrations at the rate of 0.0102 N/m per N.
- The surface tension of the water + soap solutions decreases with soap concentrations at the rate of 0.009 N/m per V/V.

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Chandan M, Department of Physics

The Juggling Act

I am a teacher, I say with pride,
A path I never thought I'd stride.
Yet here I stand, with my heart so true,
Guiding thousands, old and new.

Teaching this youth is no simple art,
It takes a brave and patient heart.
With AI and tech, they're sharp and fast,
To match their pace's a teacher's task.

Beyond the books, I weave each day,
Activities that refresh and play.
For minds revive when joy takes part,
And kids reshape a teacher's heart.

Teachers too can slip and fall,
We're not gods, just humans after all.
But by dropping ego, we choose to learn,
Respect from students, we in turn earn.

A noble calling, yet often unsung,
It builds the old, it nurtures the young.
Planting the seeds that tomorrow will show,
Teachers are roots from which great trees grow.

So here I stand, both stern and kind,
A juggler of hearts, of souls, of mind.
Though the burdens are heavy, the reward is sweet !
To see young lives grow strong, complete.

Deepika Ravi Poojari
Department of English

ACADEMIC RESULTS 2025

II PU Board Examination

Sl. No.	Name of the Student	%
1	Cheritha Kaiwar	99.83
2	Svasthi Suraj Kumar	99.50
3	Sanvi Ravindra Baasri	99.33
4	Ajit A	99.17
5	P Shraavya Hande	99.17
6	Arpitha Rajesh	99.00
7	Santrupth Rajesh	99.00
8	Sagar Rangaswamy Bharadwaj	99.00
9	Anupama Bharadwaj	98.83
10	Sinchana N	98.83
11	Samarth B N	98.83
12	Anish S Shivanagere	98.67
13	Dhanush Pai	98.67
14	Kasturi V Kamatad	98.67
15	Mithul T S	98.67
16	Shoan G	98.67
17	Shriya Aravinda Guzzar	98.67
18	Sidhanth Mahesh Rajapur	98.67
19	Uma Varenya Susarla	98.67
20	Vishal Aprameya	98.67
21	Dhaksh S Kumar	98.67
22	Arya Thejas V	98.50
23	Medha Rama Murthy	98.50
24	Nandini S	98.50
25	Praguna Krishna A	98.50
26	Purvi N	98.50
27	Satchit Kotgiri	98.50
28	Amogh R Deshpande	98.33
29	Chirag Bulbule	98.33
30	Sachith Balaji	98.33

Sl. No.	Name of the Student	%
31	Siya Manmohan	98.33
32	Varun Jagalur Sunil	98.33
33	Prajwal S	98.33
34	Mantha Sai Manaswini	98.17
35	Meghashree Gavipura Sridhar	98.17
36	Niharika Pai B	98.17
37	Roshan Kalirajan	98.17
38	Prarthana N	98.17
39	Medha Gangadhara	98.17
40	T S Nila	98.17
41	Anagha KL	98.00
42	Aniket K B	98.00
43	Ayush S P	98.00
44	Buvi Sharat	98.00
45	Jayalakshmi K V	98.00
46	Manvita Reddy	98.00
47	Raashi Hegde	98.00
48	Sanjana V Sharma	98.00
49	Shamitha S	98.00
50	Swasthi Nagendra	98.00
51	Tanish Kumar N	98.00
52	Akanksha Rajiv	98.00
53	Abhinav Naveen Kumar	97.83
54	Ananya N	97.83
55	Jasvanth V A	97.83
56	Karthik M R	97.83
57	N Ananth	97.83
58	Nikita Vikram	97.83
59	Preethi B	97.83
60	Ranjana M Sriram	97.83

Sl. No.	Name of the Student	%
61	Saanvi Vasishta	97.83
62	Siddharth Vasishta	97.83
63	Tejas K	97.83
64	Vyas V Deshpande	97.83
65	Harini Gopalan	97.83
66	Achyutha Santhosh Chandan	97.67
67	Bharath Raghuraman	97.67
68	Dakshath P Gowda	97.67
69	Diva Prakash	97.67
70	Jhanavi Chandramouli	97.67
71	Mandara Gururaja Gowda	97.67
72	Mythri A I	97.67
73	Namitha Rengella Sharath	97.67
74	Rohith Adhyapak	97.67
75	Sahana K	97.67
76	Sanjeev S Nadgir	97.67
77	Vidhat Jois	97.67
78	Yashas S	97.67
79	Anvita Sameer Mutalik	97.67
80	Abhinaya Ravi	97.50
81	Akshata C	97.50
82	Bhoomika G	97.50
83	Hrishikesh Vinay	97.50
84	Nithyashree K L	97.50
85	Rachitha P H	97.50
86	Raghoothama T R	97.50
87	Rahul V R	97.50
88	Samiksha B Ghanti	97.50
89	Vaishnavi Athreya	97.50
90	Amogh Gurudatta	97.33

Sl. No.	Name of the Student	%
91	Bhoomika H	97.33
92	Puttur Abhay Kamath	97.33
93	Aditya Shashidhar Hebbar	97.17
94	Duvvuri Sankara Pranav	97.17
95	K S Ashish	97.17
96	Raghav K	97.17
97	Ruthvik R S	97.17
98	Saketh Vidyadhara	97.17
99	Shreya Olety Srikanth	97.17
100	Talipady Sanjeera Hegde	97.17
101	Abijeet Jaikrishnan	97.00
102	Anirudh Muthya	97.00
103	Bhargav Kaipa Sharadaprasad	97.00
104	H R Sujay	97.00
105	Khushi L Reddy	97.00
106	Shreyas Kiran Lagvankar	97.00
107	Pranav R H	97.00
108	Bhavesh Vishwanath	96.83
109	Navoday K	96.83
110	Nihaal R	96.83
111	Pushkar P Rajapurohit	96.83
112	S V Gajanana Vittal	96.83
113	Sharath Shivaraju	96.83
114	Swayam Gaded	96.83
115	Vismaya M S	96.83
116	Pratham Prakash	96.83
117	Adithya P	96.67
118	Amogh Nataraj	96.67
119	Devashish Gowda S	96.67
120	Prathya S	96.67

Sl. No.	Name of the Student	%
121	Vaishnavi B	96.67
122	Vibha N C	96.67
123	Zoha Afreen	96.67
124	Anusha Kiran Vasisht	96.67
125	Namita Pabbineedi	96.67
126	Prajwal V Suresh	96.67
127	Adithya Reddy	96.50
128	Adithya T U	96.50
129	Chinmayee R	96.50
130	Srushti Raghavendra	96.50
131	Vijaya Raghavendra Pradeep	96.50
132	Nikhil T U	96.50
133	Pravith G Kashi	96.50
134	Akshay B Bharadwaj	96.33
135	Akul Prashanth Athreya	96.33
136	Alaina Nausheen	96.33
137	J S Nithin Reddy	96.33
138	Manasvi Raghu Kodali	96.33
139	Prakrutee Jain	96.33
140	Pranati Prasad	96.33
141	Saathvik S	96.33
142	Satvik M Patil	96.33
143	Shashank Saligram Shreepad	96.33
144	Shruthi S Adiga	96.33
145	Vandita H	96.33
146	Aniruddh N	96.17
147	Dyuthi K	96.17
148	Leisha Girish Reddy	96.17
149	Pranav K Srikanth	96.17
150	Pranay Mehtta	96.17

Sl. No.	Name of the Student	%
151	Prarthana K H	96.17
152	Sudeepti Sagar	96.17
153	Vrundha V	96.17
154	Diya Premkumar	96.00
155	Loka Ranjan P	96.00
156	Rohith N	96.00
157	V Pranamya Bhat	96.00
158	Vedanth Iyengar	96.00
159	Yashas Kumar V	96.00
160	Rashmi C Kakade	96.00
161	Purvith A	96.00
162	Adhrit Budagutta	95.83
163	Akhil Kurma	95.83
164	Amogh Kiran Kaverikana	95.83
165	Gowri V Sharma	95.83
166	Madhumita H C	95.83
167	Ruchira R Upadhya	95.83
168	Saicharan S	95.83
169	Siya Sharath	95.83
170	Sumedha R Acharya	95.83
171	Vihaan Vinay Nooyi	95.83
172	Jhashvik Anikethan B S M	95.83
173	Aditi Muthya	95.67
174	Akshay Prashantha	95.67
175	Niharika T N	95.67
176	Sai Suhas Nekkanti	95.67
177	Siddharth Shashidhar	95.67
178	Thanmay C	95.67
179	V Abhegna	95.67
180	Veditha K	95.67

Sl. No.	Name of the Student	%
181	Aaditya J H	95.67
182	Dittha N Murthy	95.50
183	Kushadhi J Yadav	95.50
184	Mahima A Jois	95.50
185	Mohamed Dayyan Delvi	95.50
186	Nikhila Athreyas	95.50
187	Pramukh B K	95.50
188	Pranavi U	95.50
189	Ram Nithish D	95.50
190	Rishabh Praveen	95.50
191	Srisesh S V	95.50
192	Trishala Kalasapura Arun	95.50
193	Vishwajit	95.50
194	Harshith S G	95.50
195	Abhay Baliga B	95.33
196	Amogha Kadasoor Ganesha	95.33
197	Aniruddha D G	95.33
198	Dhruthi Shrinivas Kulkarni	95.33
199	Gandharva G Gowda	95.33
200	Ninad Pramoda Hebbar	95.33
201	P V K P Karthik	95.33
202	Prajval Heggere	95.33
203	Prakruti B Angadi	95.33
204	Vishal H S	95.33
205	Manasvi M	95.33

Sl. No.	Name of the Student	%
206	Achyutha N Kumar	95.17
207	Adithi Chandrakanth Taget	95.17
208	Anirudh Bhargav	95.17
209	Mayur Yadav P	95.17
210	Pranav T R	95.17
211	Raghav A Tallam	95.17
212	Rishith S	95.17
213	Sarvajith Harishankar Rao	95.17
214	Shrujana Rao	95.17
215	Yatin P Khemkar	95.17
216	Avinandha Jagatagar Sreedhara	95.00
217	Hemanya S	95.00
218	Krishna Chandra Subramani	95.00
219	Pranav Narayan	95.00
220	Pranav P	95.00
221	Sanjan Lakshman	95.00
222	Shravani S Beliya	95.00
223	Tanay Pradeep	95.00
224	Tanvi Sadashiv	95.00
225	Yashaswini R G	95.00
226	Monish R	95.00
227	Pujya Jain P	95.00
228	Shishir Mahesh Gunari	95.00
229	Shriya Raghuraj Kundargi	95.00
230	Gnyana Akshitha N	95.00

ACADEMIC RESULTS 2025
KCET

Sl. No.	Name of the Student	%
1	Hrishikesh Vinay	16
2	Pranav R H	17
3	Sahana K	50
4	Tejas K	71
5	Shashank M Shaunak	75
6	Arya Thejas V	77
7	Nandini S	110
8	Medha Rama Murthy	142
9	Nishanth Bhat	147
10	Ajit A	154
11	Raghav K	165
12	Mukund Patawardhan	183
13	Ayush S P	186
14	Amogh Gurudatta	194
15	Sumedha R Acharya	223
16	Ruthvik R S	235
17	P Shraavya Hande	250
18	Pranay Mehtta	269
19	Vijaya Raghavendra Pradeep	283
20	Sanvi Ravindra Baasri	284
21	Anupama Bharadwaj	317
22	Krishna Chandra Subramani	363
23	P V K P Karthik	367
24	Bharath Raghuraman	397
25	Sidhanth Mahesh Rajapur	410
26	Dhaksh S Kumar	414
27	Akshay K C	419
28	Amogh Nataraj	427
29	Abhinav Naveen Kumar	429
30	Pranav T R	440

Sl. No.	Name of the Student	%
31	Pranav P	444
32	Abhinaya Ravi	460
33	Akhil Kurma	468
34	Lakshan Girish	480
35	Samprit Krishna C S	482
36	Satchit Kotgiri	500
37	Manyu V Reddy	517
38	N Ananth	523
39	Samarth B N	527
40	Shriya Aravinda Guzzar	528
41	A Shravan Achar	547
42	Siri Mohana	567
43	Cheritha Kaiwar	573
44	Tanay Pradeep	576
45	Gorur Balaji Vishnu	579
46	Anirudh Bhargav	598
47	Mithul T S	605
48	Sinchana N	606
49	Uma Varenya Susarla	617
50	Manasvi Raghu Kodali	618
51	Puttur Abhay Kamath	640
52	Niharika Pai B	644
53	Prajval Heggere	656
54	Kshitij Vinayak Kulkarni	661
55	Vishwajit	673
56	Sumanth K S	676
57	Maanas Baranwal	677
58	Varun Jagalur Sunil	720
59	Sudhanva Saligram Dinesh	737
60	Tanish M	763

ACADEMIC RESULTS 2025
KCET

Sl. No.	Name of the Student	%
61	Aniruddha D G	784
62	Dittha N Murthy	792
63	Chirag Bulbule	803
64	Akanksha Rajiv	821
65	Prajwal S	822
66	Pranav P Adiga	823
67	Roshan Kalirajan	833
68	Dakshath P Gowda	835
69	Kasturi V Kamatad	836
70	Abijeet Jaikrishnan	853
71	Karthik M R	905
72	Avinandha Jagatagar Sreedhara	912
73	Siddharth Shashidhar	950
74	Arpitha Rajesh	980
75	Harini Gopalan	990
76	Rahul Badrinath	1006
77	Nikhil T U	1013
78	Ronit Solanki	1080
79	Sai Suhas Nekkanti	1113
80	Madallapalli Suhaan	1118
81	Pravith G Kashi	1133
82	Jasvanth V A	1139
83	Yashas S	1158
84	Thanmay C	1169
85	Swayam Gaded	1174
86	Pratyush Kulkarni	1178
87	Mohamed Dayyan Delvi	1211
88	Sachith Balaji	1218
89	Siya Manmohan	1222
90	Anvita Sameer Mutalik	1235

Sl. No.	Name of the Student	%
91	Hrishik N Urs	1254
92	Sagar Rangaswamy Bharadwaj	1283
93	Satvik M Patil	1328
94	Purvi N	1346
95	Sanik Gowda M	1380
96	Rohith Adhyapak	1417
97	Duvvuri Sankara Pranav	1418
98	Abhay Baliga B	1422
99	Sahith Venkatesh Shuntikatte	1427
100	Raashi Hegde	1447
101	Shreyas Kiran Lagvankar	1450
102	V Vishnu Tejomay	1464
103	Siddharth Vasishta	1471
104	Jhanavi Chandramouli	1478
105	Pramukh B K	1479
106	Zoha Afreen	1487
107	H R Sujay	1499
108	Preethi B	1546
109	Svasthi Suraj Kumar	1568
110	Shamitha S	1575
111	Vishal Aprameya	1598
112	Navoday K	1609
113	Nikita Vikram	1614
114	Aniket K B	1635
115	Rahul V R	1670
116	Buvi Sharat	1672
117	Sanjana V Sharma	1679
118	Rahul Pappu	1710
119	Bhargav Kaipa Sharadaprasad	1711
120	Harshith S G	1714

ACADEMIC RESULTS 2025
KCET

Sl. No.	Name of the Student	%
121	Swasthi Nagendra	1728
122	Praguna Krishna A	1732
123	Prakrutee Jain	1801
124	Rishabh Praveen	1852
125	Bhavesh Vishwanath	1861
126	Dhanush Pai	1867
127	Aditi Girish	1872
128	Mythri A I	1965
129	Meghana G	1977
130	Shreyas V Wadageri	1990
131	Trishala Kalasapura Arun	2054
132	Anusha Kiran Vasisht	2056
133	Saketh Vidyadhara	2067
134	Srisesh S V	2069
135	Harshini Ramesh	2070
136	Alpana H Badrinath	2111
137	Saicharan S	2123
138	Pushkar P Rajapurohit	2181
139	Prajwal V Suresh	2270
140	Achyutha N Kumar	2289
141	Achyutha Santhosh Chandan	2293
142	Rachitha P H	2303
143	Alaina Nausheen	2314
144	Jonathan Kanniampady Mathew	2327
145	Rohith N	2332
146	Ram Nithish D	2342
147	Vyas V Deshpande	2354
148	Vedanth Iyengar	2359
149	Pratham G Kashyap	2380
150	Tejasvin Comti Nagaraj	2412

Sl. No.	Name of the Student	%
151	Pranati Prasad	2424
152	Adhrit Budagutta	2462
153	Amogh Kiran Kaverikana	2506
154	Shruthi S Adiga	2531
155	Anagha KL	2540
156	Vismaya M S	2565
157	Jayalakshmi K V	2608
158	Namita Pabbineedi	2673
159	Saketh Vivek Kadaba	2677
160	Aniruddh N	2731
161	Aditya Nikhil	2741
162	Bhoomika G	2757
163	Aditya Shashidhar Hebbar	2783
164	Aaditya J H	2786
165	Pranav Venkatesh	2819
166	Adithya T U	2910
167	Harshith S	2923
168	Vineeth A D	2932
169	Vidhat Jois	2961
170	Khushi L Reddy	2980
171	Sharath Shivaraju	3004
172	Madhumita H C	3016
173	Nihaal R	3026
174	Akshata C	3052
175	Aditya Kushtagi	3054
176	Meghashree Gavipura Sridhar	3056
177	Shushanth U Shankar	3084
178	Rohan N K	3183
179	Gokul Sabarinath Nair	3192
180	Motamarri Venkata Rujula Tejaswi	3210

ACADEMIC RESULTS 2025
KCET

Sl. No.	Name of the Student	%
181	Prathith Raghav	3219
182	Shishir Mahesh Gunari	3250
183	Shreyas Holla	3313
184	Raghav Gandikota	3346
185	Vishal H S	3355
186	Veditha K	3419
187	Santrupth Rajesh	3444
188	Prarthana N	3445
189	Chiranthan V S S Rao	3568
190	Tarun H	3571
191	Dharsini V	3598
192	Ananya N	3617
193	Sanjeev S Nadgir	3649
194	Saathvik S	3699
195	Chinmay P N	3708
196	B C Suraj	3779
197	Aniketh G M	3817
198	Akshay B Bharadwaj	3818
199	Aditya S Bhat	3837
200	Ruchira R Upadhya	3882
201	Druthi Chandreesh	3883
202	Yadunandan H Bharadwaj	3891
203	Adithya George Alex	3914
204	Shriyan V V	3987

Sl. No.	Name of the Student	%
205	Saketh Krishna G	4050
206	Namitha Rengella Sharath	4086
207	Amogh R Deshpande	4093
208	Vihaan Vinay Nooyi	4155
209	Arjun S Pillai	4186
210	Niharika T N	4193
211	Shrujana Rao	4250
212	Durganandan K	4337
213	Parjanya Basri B D	4389
214	Pranav Narayan	4406
215	Aryan B Turavi	4411
216	Ishan L Patil	4478
217	Shoan G	4484
218	Akul Prashanth Athreya	4537
219	Suhas Ganesh R	4581
220	Dhruva Korni	4624
221	Medha Gangadhara	4714
222	Tanish Kumar N	4795
223	Anushree A Moudgalya	4798
224	Abhay Gurudath Vasista	4803
225	Mahima A Jois	4810
226	Pujya Jain P	4866
227	T S Nila	4878
228	Varun S	4942
229	Rashmi C Kakade	4969

ACADEMIC RESULTS 2025
JEE MAIN

Sl. No.	Student Name	CRL
1	Tejas K	639
2	Pranav R H	755
3	Hrishikesh Vinay	966
4	Samprit Krishna C S	1685
5	Sahith Venkatesh Shuntikatte	2051
6	Sahana K	2113
7	Akshay K C	213*
8	Aniruddha D G	2446
9	Tanay Pradeep	2643
10	Arya Thejas V	2815
11	A Shravan Achar	3025
12	Pranay Mehtta	3045
13	Krishna Chandra Subramani	3522
14	Pranav T R	3546
15	Lakshan Girish	3721
16	Rahul Badrinath	909*
17	Anirudh Bhargav	5576
18	Rishabh Praveen	5578
19	Abhinav Naveen Kumar	1173*
20	Raghav K	5764
21	Avinandha Jagatagar Sreedhara	5781
22	Maanas Baranwal	5967
23	Amogh Gurudatta	6166
24	V Vishnu Tejomay	6244
25	Pravith G Kashi	6492
26	Kshitij Vinayak Kulkarni	6523
27	Amogh Nataraj	6981
28	Mukund Patawardhan	7200
29	Vishwajit	7350
30	Medha Rama Murthy	7698
31	Sudhanva Saligram Dinesh	8051

Sl. No.	Student Name	CRL
32	Nishanth Bhat	8209
33	Sidhanth Mahesh Rajapur	8865
34	Prajval Heggere	9063
35	Manyu V Reddy	9186
36	Ruthvik R S	9722
37	Shreyas V Wadageri	9744
38	Sumedha R Acharya	10523
39	Madallapalli Suhaan	11474
40	Gorur Balaji Vishnu	11555
41	Swayam Gaded	12624
42	Jonathan Kanniampady Mathew	12714
43	Siri Mohana	13587
44	Tanish M	13612
45	Satchit Kotgiri	13981
46	Tejasvin Comti Nagaraj	14054
47	Prajwal V Suresh	15463
48	Pranav P	15696
49	Varun Jagalur Sunil	16024
50	Ronit Solanki	16186
51	Prajwal S	16904
52	Shushanth U Shankar	17207
53	Anupama Bharadwaj	17545
54	Mithul T S	17618
55	Sumanth K S	17822
56	P Shraavya Hande	18577
57	Anirudh Muthya	18874
58	Rahul Pappu	19827
59	Abijeet Jaikrishnan	19968
60	Harshaal Karkera	14926*
61	S V Gajanana Vittal	16873*
62	L P Thrisha	3578*

* Category Ranks

ACADEMIC RESULTS 2025
JEE ADVANCED

Sl. No.	Student Name	CRL
1	Pranav R H	338
2	Tejas K	491
3	Hrishikesh Vinay	552
4	Mukund Patawardhan	1086
5	Vishwajit	1798
6	Akshay K C	269*
7	Samprit Krishna C S	2924
8	Sudhanva Saligram Dinesh	2960
9	Pranav T R	3020
10	Tejasvin Comti Nagaraj	3464
11	Kshitij Vinayak Kulkarni	3605
12	Amogh Nataraj	3819
13	Sumedha R Acharya	4218
14	Sahana K	4564
15	Raghav K	4731
16	Abhinav Naveen Kumar	4773
17	Pranay Mehtta	5084
18	Krishna Chandra Subramani	5103
19	Arya Thejas V	5411
20	Medha Rama Murthy	5591
21	Prajval Heggere	5713
22	Tanay Pradeep	5869
23	Aniruddha D G	6019
24	Rahul Badrinath	6106
25	Avinandha Jagatagar Sreedhara	6276
26	Rishabh Praveen	6543
27	Amogh Gurudatta	6711
28	Anirudh Bhargav	7467
29	Manyu V Reddy	7488
30	Ruthvik R S	7941

Sl. No.	Student Name	CRL
31	A Shravan Achar	8402
32	Sidhanth Mahesh Rajapur	8439
33	Maanas Baranwal	8536
34	Madallapalli Suhaan	9018
35	N Ananth	9387
36	Nishanth Bhat	10413
37	Dhruv Rangain	10519
38	Sahith Venkatesh Shuntikatte	11061
39	Saicharan S	11263
40	Pranav P	12719
41	Gorur Balaji Vishnu	12812
42	Abijeet Jaikrishnan	13383
43	Lakshan Girish	13806
44	V Vishnu Tejomay	13872
45	Rahul Pappu	15696
46	Pravith G Kashi	16961
47	Shreyas V Wadageri	17553
48	Shushanth U Shankar	17808
49	Abhinaya Ravi	18130
50	Satchit Kotgiri	20679
51	Ronit Solanki	20954
52	Jonathan Kanniampady Mathew	22195
53	Uma Varenya Susarla	24790
54	Achyutha N Kumar	24944
55	Mithul T S	24950
56	Sumanth K S	25306
57	Alpana H Badrinath	25803
58	Jampani Sai Tarang	26159
59	Anirudh Muthya	29136
60	Prajwal S	29890

* Category Ranks

ACADEMIC RESULTS 2025

NEET

Sl. No.	Student Name	Marks
1	Karthik M R	634
2	P Shraavya Hande	622
3	Bhavesh Vishwanath	612
4	Varun Jagalur Sunil	601
5	Prajwal V Suresh	596
6	Shriya Aravinda Guzzar	592
7	Niharika Pai B	582
8	Aditya Nikhil	580
9	Pranav P Adiga	577
10	Zoha Afreen	573
11	Prakrutee Jain	571
12	Harshith S	569
13	Kasturi V Kamatad	569
14	Shamitha S	566
15	Veditha K	565
16	Anvita Sameer Mutalik	561
17	Alaina Nausheen	561
18	Rahul M	554
19	Saanvi Arun Dutt	553
20	Sai Suhas Nekkanti	548

Sl. No.	Student Name	Marks
21	Vyas V Deshpande	547
22	Manvita Reddy	545
23	Prateeksha Bhat	537
24	Cheritha Kaiwar	534
25	Asiya Zaheera	533
26	Vidhatri Rajeev Ghat	529
27	Varun S	527
28	Arpitha Rajesh	527
29	Saketh Krishna G	527
30	Vismaya M S	522
31	Jayalakshmi K V	520
32	Druthi Chandreesh	518
33	Aditi Girish	515
34	Sanjitha A	513
35	Vaishnavi B	513
36	Buvi Sharat	510
37	Saathvik Mokshagundam	509
38	Ananya N	509
39	Shoan G	506
40	Sanjana V Sharma	504

We are proud of you for making us proud!

Best wishes

Go, change the world

Total Number of IIT Admissions	**21**
Total Number of MBBS Admissions (Merit)	**80**
Total Number of RVCE Admissions	**63**

Chess Achievements of Nishanth S Gowda

1. Nishanth S Gowda secured 10th place in Open and Age Category Chess Tournament from 29th to 30th March, 2025 held at Dr. M.H Marigowda Hall, Lalbagh Botanical Garden.
2. Nishanth S Gowda secured 10th place in Great Minds Chess Academy All India Rapid Rating Chess Tournament on 22nd June, 2025 held at Mysore and received Rs.2,000 cash prize in below 1800 rating category.
3. Nishanth S Gowda secured 2nd place in BANGALORE SOUTH DISTRICT CHESS CHAMPIONSHIP 2025-26 for U-19 BOYS on 09th September, 2025 held at Seshadripuram Independent Pre-University College in Kengeri and got selected to represent Bangalore South for the upcoming State Tournament

Nishanth S Gowda, 2K

Ashvi Rajesh Rao

All India General Knowledge Examination conducted by the Centre for Human Resource Development:

- All India 16th Rank with Merit Scholarship of Rs.1200 (2024)

Dr. A.P.J. Abdul Kalam Merit Scholarship:

- Rs.5000 (2023-2024)

Inter-School One Minute Articulation Contest (OMAC):

- 2nd Prize in the Story Telling Contest (2024-2025)

Talent Search Examination conducted by the Karnataka ICSE Schools Association:

Ashvi Rajesh Rao,1F

Avni Vishwas, 2F

I, Avni Vishwas, a second-year PCMB student at RVPU, have pursued competitive swimming with dedication, representing my school, college, and state at prestigious levels. In 2023–24, I secured two Golds, one Silver, and two Bronzes at the CBSE Zonals (Davangere), followed by a Gold and two Bronzes at the CBSE Nationals (Haryana). I also earned Silvers at the SGFI Nationals (Delhi, Kerala) and three medals at the State Meet (Mandya). At the PU Meet (2024), I won three Bronzes, alongside a Gold and ₹1000 cash prize at the Transcend Interschool Meet. Swimming continues to instill discipline, resilience, and perseverance.

Over the past two years, I, Avni Vishwas of 2F, have participated in national and international competitions in mathematics, science, and innovation. In 2025, I earned the Silver Honor at the Asia International Mathematical Olympiad (AIMO), the Bronze Award at the Singapore Math Global Final (SMGF)—with a country rank of 1 and global rank of 6—and a Bronze Medal at the FISO Math and Science Olympiads. In 2024, I secured a Silver Medal in the American Math Olympiad, ranked 3rd nationally in The Ramanujam Challenge, and completed all rounds of the Youth Medical Innovators Challenge (YMIC).

I, Avni Vishwas of class 2F, have pursued research across biomedicine, genetics, and neuroscience, blending scientific inquiry with social impact. At Elio Academy (Jul–Aug 2025), I studied the PTEN gene and Cowden Syndrome, presenting a certified project. At SHRM Biotechnologies (Nov 2024–Apr 2025), I worked on CRISPR-Cas9 and gene–drug interactions, contributing to a publication. Through YLAC (Jun–Jul 2025), I co-authored "Fair and Square: Making AI Work for Young People" (Best Paper Award). At CRY, I raised ₹15,000 for child rights. With Non-Trivial, I explored brain organoids' potential for learning and AI.

Spoorthi M. Prasad, 1E

I have actively pursued science and mathematics through hands-on and research experiences. I participated in a telescope-making workshop organized by Tare Zameen Paar, led by Dr. Satish Aryabhatta, which deepened my understanding of astronomy. I also presented a paper titled "Measure Your Smile" on integrating mathematics in dentistry at the Association of Mathematics Teachers of India; this work was later published in a Gujarat-based educational magazine. Additionally, as a member of Team Titan in the International Astronomical Search Collaboration, I contributed to discovering two asteroids, which our team had the privilege of naming. These experiences fueled my curiosity and strengthened my teamwork.

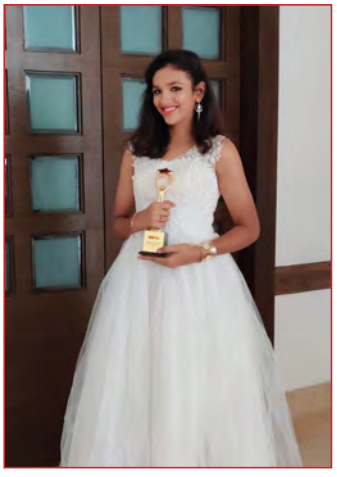
Shravya B Sandeep, 2I

Shravya B Sandeep, a student of Sri Kumaran Children's Home Educational Council (SKCHEC –CBSE). In 2024, she was selected among the top 20 students in Bangalore for drawing and proudly represented her school in a competition held at Christ College, organized by Design Venue.

Srinidhi S, 2I

An accomplished achiever in both fashion and sports, I was crowned Miss City Princess at Mr. & Ms. Prince and Princess India in Chandigarh and emerged as the Winner of Shine Tags Season 2. In recognition of my talent and influence, I was honored with the "Excellent Youth Icon" award by VelozEve IWDIAA. Beyond fashion, I excel in sports—winning the Legacy Sports Championship and securing Runner-up in the U-16 Racqueteers School of Badminton Championship and was also Awarded as the Best Sports Person in School.






Supraja S, 2C

Supraja S, 2C is a Talented Badminton Player who has consistently excelled at both State and National Levels in Singles and Doubles categories from the age of 7. The most significant achievement has been winning the Prestigious Prakash Padukone State Championship for six consecutive years (2017 to 2023) along with Raptors Talent Hunt and Winning Karnataka State Championship Girls Doubles. She has also been featured multiple times in The Times of India, showcasing her journey and dedication to the sports.

At school, she served as Captain of Badminton Team leading and motivating her teammates by winning numerous Inter School Tournaments bringing applause and pride to school.

Ms. Surabhi Pendharkar

Department of Physics

IIT Madras's 'First principles teachers award' ceremony. Award from Garden City University. Nominated via polling by students and interview by a panel and selected from across teachers in India.

Mr. Manjunath Gowda

Department of Computer Science

Mr. Manjunath Gowda Computer Science Department was felicitated on 19th April 2025 for teaching Computer Science as the Senior faculty for 2 years at VV Puram College.

Mr. Pradeepa K C

Department of Physical Education

Mr. Pradeepa KC has been selected as a Technical Official of the Karnataka Kho Kho Association, recognizing his expertise and contribution to sports.

Ms. Hema. N

Department of English

Notable Credit

"Best poet of the year" by Inkzoid publishers with Webstory India

Rising literary icon inspired by notable authors like Rowling, Arundati Roy, Jhumpa Lahiri Co author of the first anthology dedicated to RatanTata after his demise

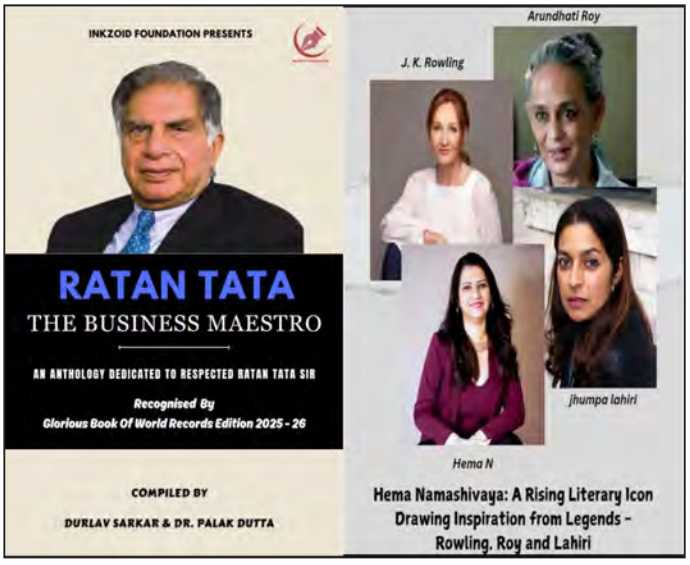
Participated in Christmas competition dedicated to Mrs Pushparaj Muriel

Awarded "Inspiring Fashion icon" for the contribution in the field of fashion by Kalam Foundation Coverstar of the Celeb Mania, celebrity magazine

National Heritage honour award by Global literary circle and Publishers

Other Credentials

- Guest for the Graduation of the MBA program at Aravalli Bangalore Centre for Digitalization
- Completed Beginners batch in belly dance by NK Belly dance classes
- Guest invitee at Tedx ABBS on Sustainable Environment
- Invited as Guest Motivational Speaker and Resource person at Thomas memorial school for faculty development program



A part of the profits contributed to Team Hasiru NGO run by Alumni of batch RVPU 2015 - 2017

One part is contributed as a help to students' education sponsor.

RV's kind Gesture

Ms. Majeeda

Department of Chemistry

Ms. Majeeda participated in the Two-Day International Conference on Transcending Frontiers in Chemical and Material Sciences (TFCMS – 2025) held in Jan 2025 at NMKRV College for Women, Bengaluru, was organized by the PG Department of Chemistry & Research Centre in collaboration with the American Chemical Society (ACS) and the Royal Society of Chemistry (RSC).

She delivered a poster presentation on the topic "Modified Chitosan Derivatives as Corrosion Inhibitors Promoting Circular Chemistry." Her work emphasized the potential of biopolymer- corrosion inhibitors, contributing towards green and circular chemistry. The conference served as an excellent platform for academic and research networking in the field of Chemistry.

Workshop Participation

Ms. Majeeda participated in the *SAFIT–Series I Workshop on "Spectrofluorophotometer & Electrospinning Instrument"held on March 2025 at CHRIST (Deemed to be University), Bengaluru*. The workshop was organized by the Department of Chemistry, Centre for Renewable Energy & Environmental Sustainability.

The program included hands-on training and theoretical sessions on advanced analytical techniques, thereby enhancing participants skills in scientific instrumentation and research methodologies.

RV's kind Gesture

RV PU College, Jayanagar donated RO Plant to Malenadu High School, located in Kalluhalla Village, Shivamogga District, in association with the Shrigandha Kannada Foundation (R).

A part of the contribution from the stalls organised by RV Students on Sports Day was also donated to `Adamya Chetana's' Green Kitchen

STAFF PHOTOS - 2025

DEPARTMENT & FACULITIES

Prof. Thejesh S.
Principal

Ms. Pooja Naik
Vice Principal

Prof. R.P. Umashankar
Program Head

Dr.Babu T.P.
Program Head

Department of Physics

Department of Chemistry

STAFF PHOTOS - 2025

Department of Mathematics

Department of Biology

Department of Electronics

STAFF PHOTOS - 2025

Department of Computer Science

Department of English

Department of Languages

STAFF PHOTOS - 2025

Department of Administration

Academic Mentors

Department of Library & Physical Education

STAFF PHOTOS - 2025

Support Staff

Campus Engineer & Housekeeping Staff

Security Staff

STUDENT GROUP PHOTOS

1A

1B

STUDENT GROUP PHOTOS

STUDENT GROUP PHOTOS

1E

1F

STUDENT GROUP PHOTOS

1G

1H

STUDENT GROUP PHOTOS

STUDENT GROUP PHOTOS

STUDENT GROUP PHOTOS

2A

2B

STUDENT GROUP PHOTOS

2C

2D

STUDENT GROUP PHOTOS

2E

2F

STUDENT GROUP PHOTOS

2G

2H

STUDENT GROUP PHOTOS

2I

2J

STUDENT GROUP PHOTOS

COLLEGE EVENTS - 2025

UNNATI - INAUGURAL FUNCTION

FELICITATION BY RSST

FELICITATION BY PU BOARD

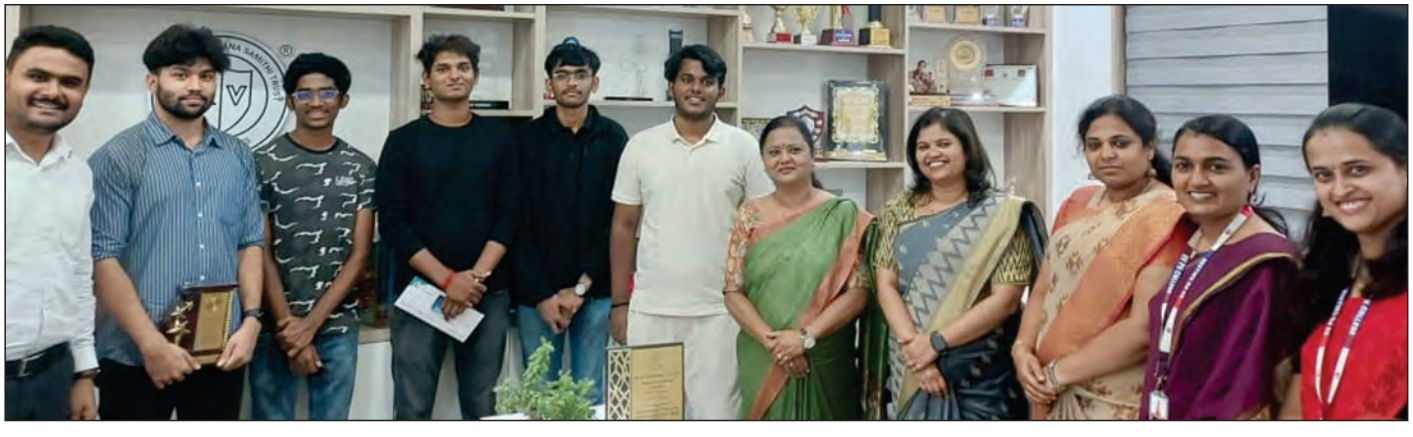
KANNADA PLAY

ABHINANDANE

PRESS MEET OF RANK HOLDERS

RV GEEKS 3.0

TECH IMPACT



MIND MATTERS - Mental Health Session

COMPUTER SCIENCE BOARD WORKSHOP

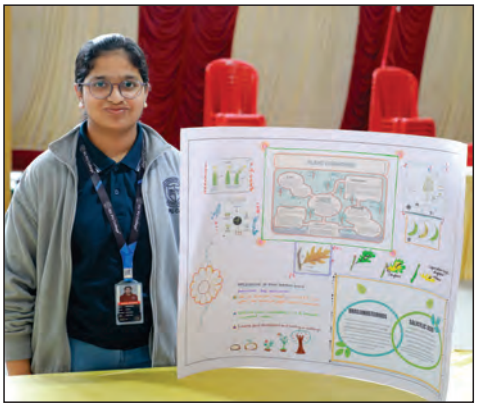
PYTHON WORKSHOP

CAREER ORIENTATION BY RVCP

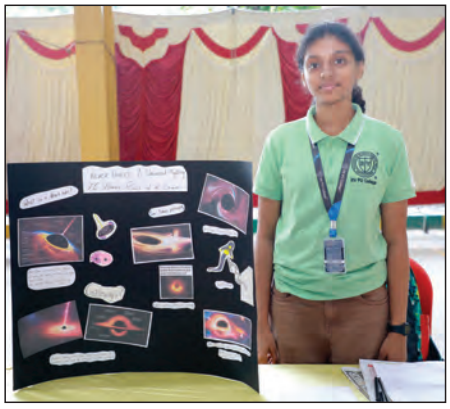
SCIVERSE 4.0

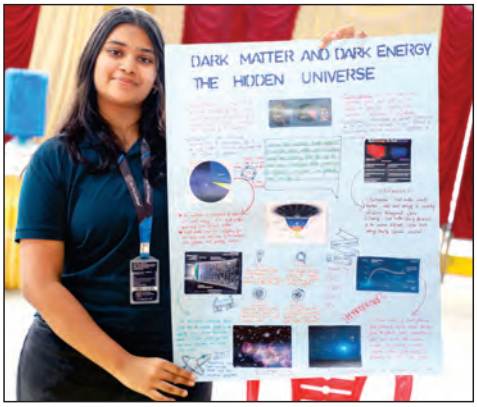

33


CAN YOU BE THE ONE TO LIVE A 100 YEARS?
Research
YES!

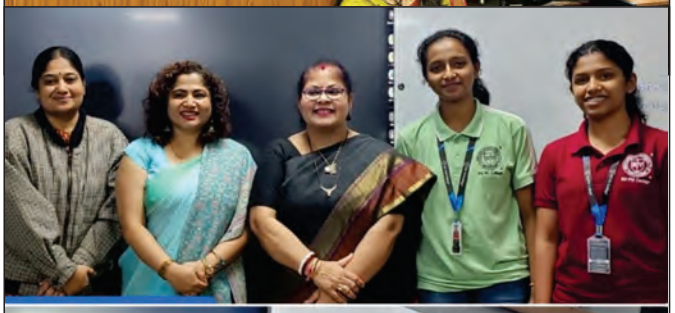


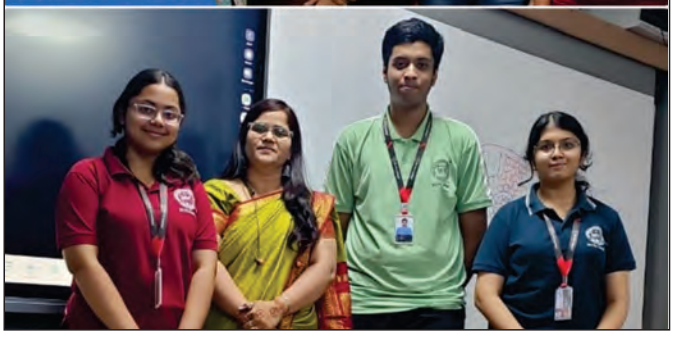

FEMALE
HIERARCHY
Bees
Arthropods
Clown Fish




DARK MATTER AND DARK ENERGY
THE HIDDEN UNIVERSE

LANGUAGE COMPETITION





MONOLOGUE

KREEDOTSAVA

YOUTH DAY

TEACHER'S DAY

REPUBLIC DAY

AMBEDKAR JAYANTHI

GANESHA CHATURTHI

KEMPEGOWDA JAYANTHI

GANDHI & LAL BAHADUR SHASTRI JAYANTHI

COOKING WITHOUT FIRE

PAPER CRAFT

INDEPENDENCE DAY & CYCLOTHON

ETHNIC DAY

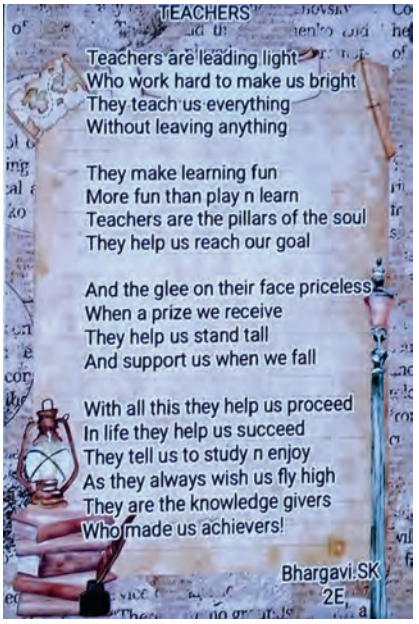
Saraswathi Pooje

Deeraj S. 2H

Divya H. 2H

Samay UV, 1H

Kaashvi, 1B



Dedication

INTER COLLEGIATE COMPETITIONS

Vinay Rishab, Chess Competition

Keerthana S - Taekwondo

Keerthan Sharath-Swimming

Nishanth S Gowda - Chess State level selection

Table Tennis Tournment

Neeraj S - Boxing Competition

Lawn Tennis Tournament

WINNERS OF DANCE COMPETITIONS

BHARATANATYAM

Tanmayi Sudhakar, 2F
1 Prize

Aahana Srikanth,1J
2nd Prize

Akhila Byndoor, 2C
2nd Prize

Pranathi Atreyee, 2G
2nd Prize

Anushka K, 2F
3rd Prize

Krithika, 2G
3rd Prize

Siddharth Rao, 2I
1st Prize, Freestyle

Keosha, 1A
2nd Prize, Freestyle

Saanvi Sunil, 1G
2nd Prize, Freestyle

Anwitha Uday, 2G
3rd Prize, Freestyle

Mahardhi, 2G
3rd Prize, Freestyle

Shaarvari, 2G
Kathak, 1st Prize

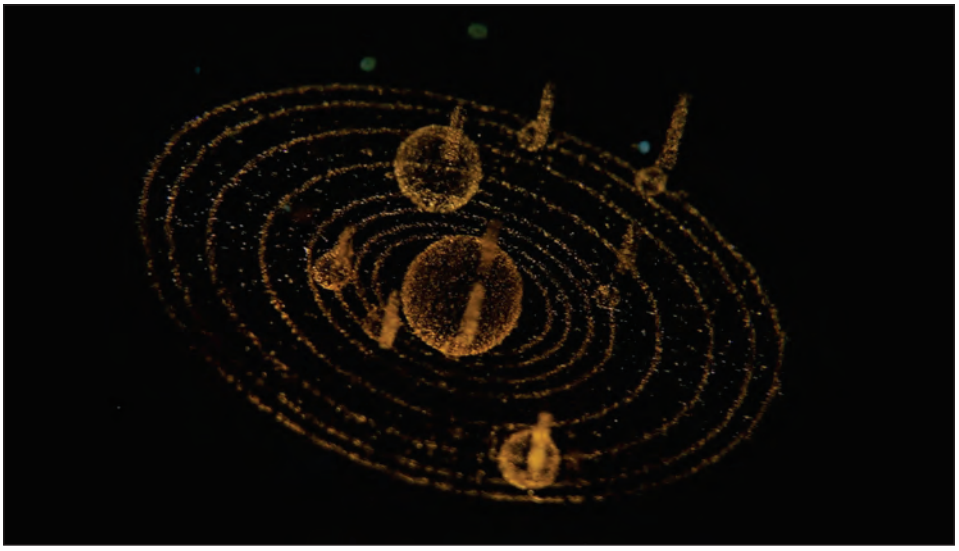
Shaashvati, 2G
Kathak, 2nd Prize

Srilakshmi, 1G
Kathak, 3rd Prize

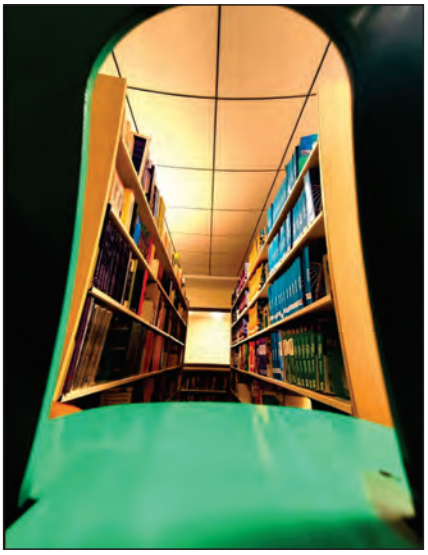
Aahana Srikanth, 1J
Kucchipudi, 1st Prize

FREE STYLE DANCE COMPETITION

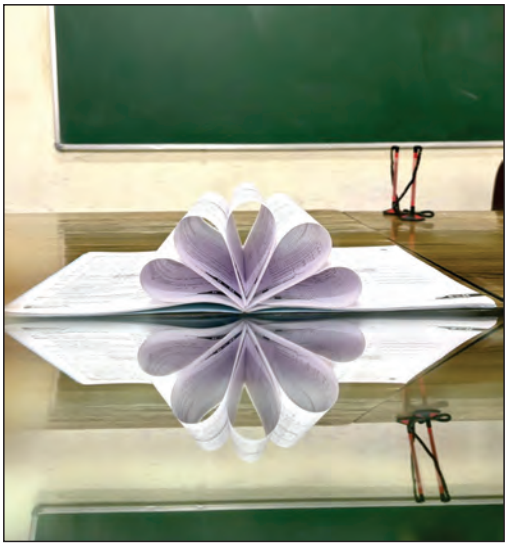
WINNERS OF THE PHOTOGRAPHY COMPETITION



Yash Prakash Kini, 1C
FIRST PRIZE



Nishanth V. Bhagwat, 1J
SECOND PRIZE



Niharika, 2D
THIRD PRIZE

Shreyas S, 2B
Consolation Prize

Rohan Saggam Raju, 1J
Consolation Prize

FLUTE

Achyuth Athreya, 1J
1st Prize

Aarabhi, 1J
2nd Prize

Samarthachandra, 1A
3rd Prize

Vishwas Bhat, 2K
3rd Prize

BHAGAVADGITA & CARNATIC CLASSIC

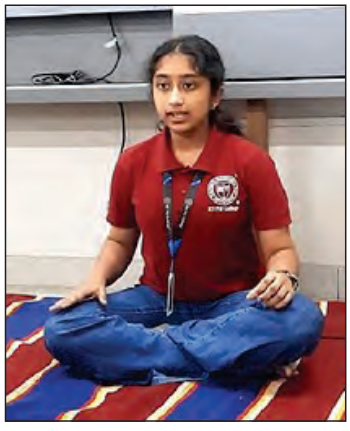
Jahnavi Sumanth, 1A
1st Prize

Ninaad Vasisht, 2A
2nd Prize

Naisha Chawda, 1A
3rd Prize

Sharadha H. Arun, 1I
1st Prize

CARNATIC CLASSIC



Arabhi Rao, 1J
2nd Prize

Pranava Narasimha, 1A
2nd Prize

Sheetal N, 2H
3rd Prize

Tejas K. 2B
Complimentary Prize

FILM SONGS

Sheetal N, 2H
1st Prize

Aarabhi Rao 1J
2nd Prize

Poorvi Shastry, 1E
2nd Prize

Srijit S. 2F
3rd Prize

DRUMS

Shravan Sadashiv, 2B
1st Prize

Sai Siddarth RK, 1H
2nd Prize

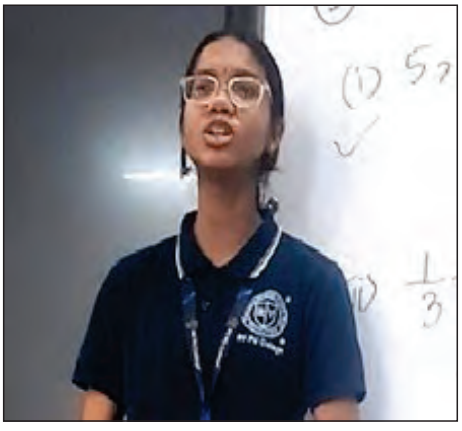
MRUDANGAM

Bharathchandra, 1A
1st Prize

Pravan Anand, 1H
2nd Prize

BHAVAGEETE

Sheetal N, 2H
1st Prize



Poorvi Shastry, 1E
2nd Prize

Nidhishree, 1I
3rd Prize

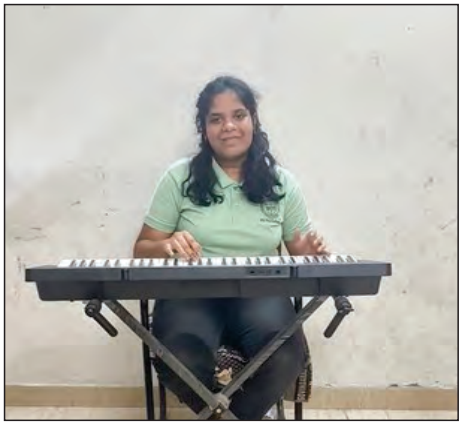
GUITAR

Chinmay Parvatikar, 1B
1st Prize

Ishaan Kotekar, 1A
2nd Prize

AkankashaS, 1A
3rd Prize

KEY BOARD

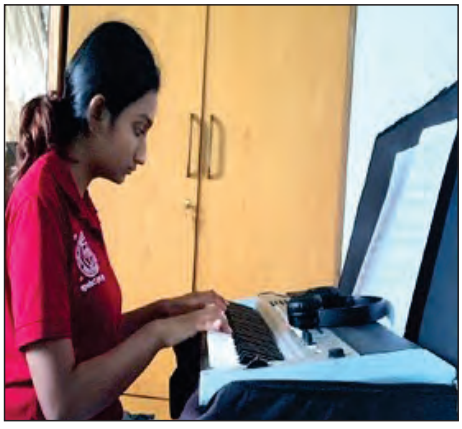


Aarna A M, 2E
1st Prize

Laksh M, 1G
2nd Prize

Dheemanth S, 1E
3rd Prize

PIANO



Deeksha Bhat, 1D
1st Prize

Sherwin Pradeep, 1A
2nd Prize

Mahardhi MV, 2G
3rd Prize

TABLA

Chethan Shekar, 2H
1st Prize

Dhanush C, 1D
2nd Prize

Suraj Hegde, 2C
3rd Prize

VEENA

Smaya TS, 1J
1st Prize

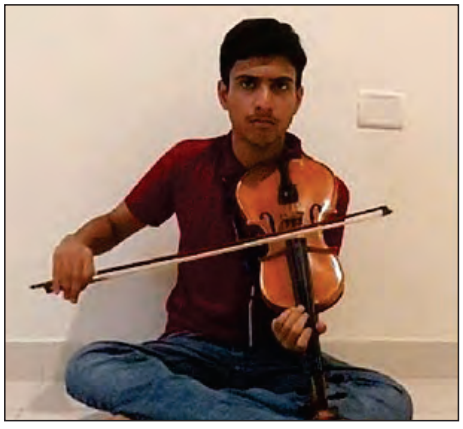
Shreepathi, 1I
2nd Prize

Niharika Ramesh, 2D
3rd Prize

VIOLIN

Srirangan Embar, 2I
1st Prize

Samarth Arunkumar, 1E
2nd Prize



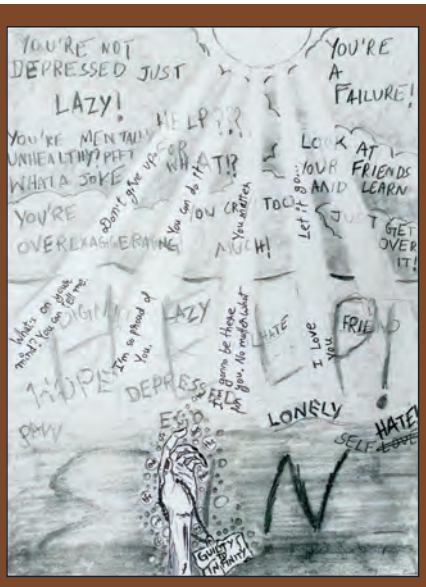
Pranav Praveen, 1C
3rd Prize

INAUGURATION OF LIBRARY, LABS & SHASHWATHI AUDITORIUM

WINNERS OF THE ART COMPETITION

Aishwarya R, 2I

Dhaval Sai P R, 2K



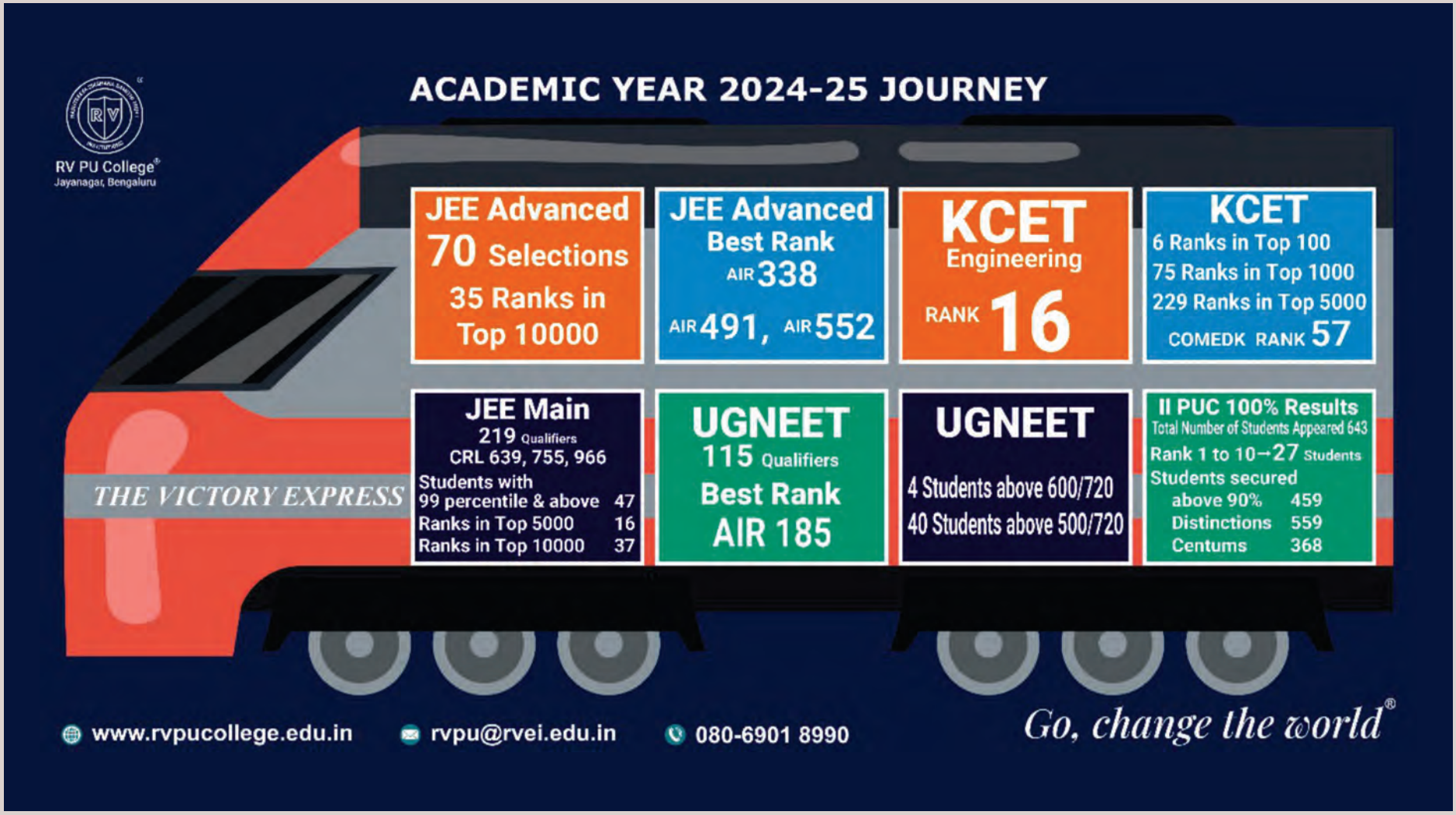
Shubhan Mallya, 2C

Anwita Tandi, 2G

Aahana Srikar, 1J

Yash Kini, 1C

RV PU COLLEGE



RV PU College®
Jayanagar, Bengaluru

3rd Block, Jayanagar, Bengaluru - 560011, Karnataka, India

Social Media Accounts