AVEINGENENTS DEEMED-TO-SE UNIVERSITY OF THE PROPERTY OF THE P

VOLUME 10 / ISSUE 2 / APRIL 2020



3

BIOPRINTING

Women's Health – Balance for the Better

Inside Campus

Kritya - Annual Literary and Cultural Extravaganza Meet Nemat Sadat - Author and Activist





DONATE BLOOD AND FUEL HUMANITY



WE ARE HERE TO HELP WHEN YOU NEED IT THE MOST CALL: 080- 4343 0400



Editorial

Dear Readers,

These are indeed difficult times for all of us. To retain focus and stay afloat despite the uncertainties is perhaps the best way to counter circumstances that defy our control.

So, here we are presenting the April Issue of AVENTURE.

Despite marching into the 21st century, gender inequalities continue to thrive. In addition to gender bias prevalent in the health care system, cultural factors make women less inclined towards their own wellbeing. With women embracing multiple roles and responsibilities, they are subjecting themselves to numerous pressures, and consequently relegating their health and wellbeing to the back burner. It is time that women make their health a priority, address their nutritional needs and proactively seek medical aid. Centre Spread gives a comprehensive insight into factors impacting women's health, emphasizing the need for greater political intent, dedicated research, mindset change for awareness building and easy and equitable access to healthcare facilities, irrespective of geography and economic conditions.

Research and Innovation is the key to the survival of the human race. And this rings true now than ever before. Among the various innovations of the 21 Century, the application of 3D printing in the medical field occupies one of the top slots. Alok Medikapure Anil in his article talks about the applications and breakthroughs that 3D printing is ushering into medical training, diagnostics, treatment, drug manufacturing and delivery. This technology has the potential to democratise healthcare by reducing cost of organ implants and drug development; indeed a big step towards social welfare especially in developing countries like India. Creating visions in our mind of all the things we want to do or achieve is very easy. But how many of us can translate these thoughts into action? How many of us back out or give up at the first instance of a hurdle? Well, here and there, are a few great souls who can converge and invest all their energies into translating a deep intent into an action; who don't give up until they achieve their goal. Read about Hirakal Hajabba to find out how.

Behind the glossy image of 'IT hub', lies the rich cultural and historical heritage of Bengaluru. If there is one area in which our city lags behind, as compared to a Western city, it is our passion to preserve relics of our heritage. Suresh Moona calls for evolving a culture of revitalising, documenting and showcasing our history and culture, as he compares the museum culture of Bengaluru and London cities.

WE have a lot more to offer in this edition of AVENTURE. Do enjoy reading and as always we look forward to your feedback.

Before signing off, Team AVENTURE hopes all our readers stay safe.

Cheersl

Editor

Aventure

Chief Patron

Dr. Chenraj Roychand, President, Jain Trust

Patron

Dr. N Sundararajan, Vice Chancellor

Editorial Advisory Board

Dr. Sandeep Shastri Prof. NVH Krishnan

Editorial Director

M S Santhosh

Editor

Shubha Srikanth

Associate Editors

Greeshma Sukumaran Shwetha H C

Contributors

Prashanth Bharadwaj Suresh Moona Utkarsh Patel Asha Malatkar Jahanavi J Soban Gul Nalme Nachiyar Alok Medikepura Anil Aparna Shivapura

Photographs

Staff Photographers

Design

Sham Sundar

Printed and published by:

M S Parswanath

Printed at Jain University Press, Jain Global Campus, Jakkasandra Post, Kanakapura Taluk, Ramanagara District-562112. Published in the months of January, April, July and October.

All the materials, text and pictures in this magazine are for informational purposes only and to the best of our knowledge is correct at the time of going to the press. By submitting any material for publication you automatically grant the Jain (Deemed-to-be University) and the Jain University Press a right to publish the submissions in part or in whole anywhere in the world and to edit the same as found suitable. The views and ideas presented in the articles herein are purely of the author and not of Jain (Deemed-to-be University) and Jain University Press nor their respective employees, agents or sub contractors shall be liable in case of any inaccuracy, damage or loss arising out of any of the published materials in this magazine.

© Jain University Press

Ramanagara District- 562112, Karnataka.

All rights reserved. Reproduction in any form, part or whole of article, story, essay, photo or any other matter from this magazine is prohibited without written permission from the Jain University Press.

Volume 10, Issue 02 For the month of April 2020 Total No. of Pages 100 including covers

connect@jupress.co.in

Contents

Inside Campus

10

Ek Bharat Shreshtha Bharat

Fit India Cycle Rally

Marching Towards Gender Balance

Kritya - Annual Literary and Cultural Extravaganza

Matrubhasha Diwas Celebration

International Women's Day

Meet Nemat Sadat - Author and Activist

Yuva 2020 - Intercollegiate Literary and Cultural Extravaganza

Book Launch: Fiber Reinforced Plastics

Pongal Festivities

Cultivating Spirituality in Young Minds

Swachhata Pakhwada for Cleaner Tomorrow

Hindi Parishad - With Author Chandan Pandey

71st Republic Day Celebrations

Revisiting Liberal Education in India





Centre Piece

30

Women's Health - Balance for the Better

Expressions

38

Where Tradition meets Innovation

Community & Culture

Bengaluru & London - A Saga

44

The Fall of Phaeton
Blacksmiths in the Agrarian Sphere

Conversation

62

Leena Kejriwal – Fighting Human Sex Trafficking

The Inspiring Tale of Padma Shri Harekala Hajabba

Aventure







70







Review
Book - The Story of a Goat
Theatre - Ucchishta
Film - The Language of Cinema Part 1

Bits & Bytes 82
3D Bioprinting: Quest Towards
Personalised Medicine and Treatment

Health & Fitness	90
Teen Suicide - A Growing Challenge	
Sports	92

Travel 96
Solo Travellers' Paradise

Poorna Malavath: Queen of the Mountains

Every End has a New Beginning!



66-

Keep on beginning and failing. Each time you fail, start all over again, and you will grow stronger until you have accomplished a purpose- not the one you began with perhaps, but the one you'll be glad to remember.

99-

nne Sullivan said, "Keep on beginning and failing. Each time you fail, start all over again, and you will grow stronger until you have accomplished a purpose, not the one you began with perhaps, but the one you'll be glad to remember."

It's a wonderful time as we turn the calendar to refocus and renew our commitment towards the society. The commencement of the New Year gives us scope to reinvent ourselves in new and better ways and this helps us emphasise on growth that would seamlessly amalgamate with the progress of our community, society and environment.

It's the dawn of a sparkling new era of hope and anticipation and let's begin the decade with a sense of great prospect, new ideas and initiatives. In times when you don't know what the future holds for you, the notion of new beginnings can be petrifying. It would definitely be better to let go of those uncertainties that don't justify ruling you for you can create a space to become a more zealous, committed and a motivating entity.

Each year is a year filled with learning new things and each day of the year is a time to create memories. Let us set our agenda for each year, each day and each moment to make it more inspirational.

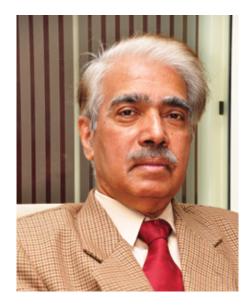
At this juncture, we once again commit ourselves to intensify our efforts to provide a forum for exchange of ideas and perspectives to spark the change that makes JAIN a more resilient, inclusive and welcoming institution.

I would like to appreciate the Editorial Board, contributors and thousands of readers and reviewers for their valuable time and expertise in helping maintain the high quality of Aventure.

On the threshold of 2020, let's welcome it with new hopes, new desires, new dreams and new milestones. Every dawn is a time for reflection, of what we've accomplished, of our new goals and of all blessings for which we are grateful. At JAIN, we are proud of our endeavors in 2019, and are busy with big plans for 2020. From us, have a great year ahead.

Dr. Chenraj Roychand President

Heralding Progress



Inaction breeds doubt and fear. Action breeds confidence and courage. If you want to conquer fear, do not sit home and think about it. Go out and get busy.

ishing you a Happy and Prosperous New Year right from the Chancellor's desk!

I take this opportunity to look back in pride at the stupendous growth of Jain (Deemed-to-be University) in the field of higher education. I congratulate the teaching and administrative staff of this fine institution for providing quality education and preparing our students to compete and succeed in the world and more importantly, bequeathing them with the legacy of universal values.

We at JAIN are looking forward to conducting a host of activities to celebrate, build awareness and contribute to society and the environment. It is essential for our students to keep their intellectual, emotional and physical selves healthy and vibrant during this transformative phase of their lives. The institution will host with greater vigor, workshops, seminars, symposiums, debates, sports competitions, cultural events to promote holistic development of our students.

At the dawn of this year, I emphasise, what I have always believed in, that progress must be organic and healthy. There are no short-cut methods for success. Success built on a strong foundation of ethics and values is what sustains us, despite upheavals and uncertainties; otherwise, success will remain a mere mirage. It is in this context that I quote:

Be not afraid of going slowly; Be afraid of standing still.

Value-based progress is always measured, for it carries the weight of responsibility and accountability. At the same time, be cautious of slipping into stasis. With the current onslaught of technology, we are at grave risk of inaction. The plague of the contemporary world is certainly emotional and intellectual apathy and physical sluggishness. As the Greek philosopher Aristotle has said, "Nothing destroys as much as long physical inactivity."

Aventure, the quarterly magazine, in one such attempt has embarked on a relaunch project. Wishing the entire team of the magazine great success in the coming year. I sincerely thank the editorial team, contributors and designers, and the administrative team that is constantly striving for excellence.

I am certain that the year to come heralds new possibilities for the JAIN family.

Dr. C G Krishnadas Nair Chancellor

New Tidings - 2020



66

And now let us believe in a long year that is given to us, new, untouched, full of things that have never been, full of work that has never been done, full of tasks, claims. and demands; and let us see that we learn to take it without letting fall too much of what it has to bestow upon those who demand of it necessary, serious, and great things. - Rilke

-99---

he New Year is upon us and it is a time for looking back and looking forward. Intriguingly, this is also the time we rush to make resolutions with promises to discard bad habits, break away from what is not working for us, pursue and achieve things we have never done before, create new habits and continue with the things that are working for us.

At the dawn of New Year, we are gifted with offers of unending possibilities as we surge forward seeking to realise promises and ambitions. While we can make changes in our lives at any time of the year, if the onset of a New Year inspires us to do things differently, then we should grab the opportunities with unbridled enthusiasm. And if that change requires and demands of us self-improvement, we must embark on it. We must keep in mind that the only permission, the only validation, and the only opinion that matters in our quest for greatness is our own.

We are all here to manifest the instinctive desire for greatness. If instinct is the spark, passion and dedication are the fuel. We should understand our value and know that the validation from others is not a necessity in life and as such of little consequence. Dreams will remain valid as long as we cherish them and are prepared to go after them full throttle.

And as we set on these seemingly simple but meaningful endeavours, let

me take this opportunity to congratulate the Editorial team of Aventure, the Jain (Deemed-to-be University) Quarterly for setting the tone with its new looks. While the magazine has been redefined to meet the demands of its growing readership, I am happy that its unique heritage as the face of JAIN has not in any way been forsaken. I believe with the new look Aventure will continue to create the same sense of wonder to our readers with its captivating designs and well-researched articles.

Let us embrace the Year 2020 and hope it will be a wonderful one as we make bold attempts to keep pace with the rapid changes in the field of technology and education.

As always, we must keep pushing ourselves and take all that we deserve in our quests with humility.

Dr. N Sundararajan Vice Chancellor



We find the publication extremely useful. We would like to continue to receive a copy of your publication for our library.

Thanglura Darlong

Ambassador, Embassy of India Bucharest

I really appreciate the new enhanced design and quality of articles on diverse topics of interest. A very interesting read. Wishing you all the best for all your future publications.

Shrinivas Dempo

Chairman. The House of Dempo, Goa

Feedback

connect@jupress.co.in www.aventure.ac.in

It has been a wonderful experience for me to go through the informative articles. Wishing you all a grand success in carving excellent human resource.

Prof. (Dr.) R K Pande

Vice Chancellor Dr. C V Raman University, Vaishali

I must say that the Volume has been very well published and it contains valuable information. May I also convey my warm greetings and very best wishes to you!

Prof. P B Sharma

Vice Chancellor, Amity University, Gurgaon

It is very insightful and imparts the entire outlook taken by your university.

Pradeep Tandon,

President. Jindal Steel and Power Ltd.

The design and content of Aventure are pleasing and are of high standard. The piece on comparison between Bengaluru London is a good read. The front page of the magazine is very soothing to the eyes of the readers. It is heartening to know that the Jain University is taking innovative initiatives, that too on a large scale. Your showcasing of the University as a whole is a thoughtful attempt. Wishing all the best to all your academic pursuits.

Prof. Subir K Bhatnagar

Vice Chancellor Dr. R.M.L. National Law University, Lucknow

Congratulations for upgrading the quality and content of the magazine. It will be quite useful to our students and faculty. I have, thus, sent it to our library for wider readership.

Dr. Upinder Dhar

Vice Chancellor, Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Ek Bharat Shreshtha Bharat

ain (Deemed-to-be University) celebrated 'Ek Bharat Shreshtha Bharat' (EBSB), an initiative of the HRD Ministry, to promote a greater understanding among the diverse cultures of India.

The EBSB Club, formed as per UGC guidelines, organised a series of events -lectures on protection and conservation of India's rich culture and heritage by eminent professors; field visits to rekindle the interest of the students towards art, archaeology, culture and love for nature; and quiz and poster making competitions.







As part of this cultural sensitisation programme, students of JAIN visited Sringeri, Gajanur Dam, Sakrebailu, Kuppalli (Kavimane), Kavishaila, Mattur, Tyavarekoppa Lion and Tiger Safari, Sakrebailu and Jog Falls.

A guest lecture by Ramesh Chand Jain - Vice President, Bharat Vikas Parishad was also organised. Speaking on the need to protect and conserve the rich cultural heritage of India, the eminent

social activist focused on the five basic principles - sampark, sahayog, sanskar, seva and samparan from the book 'Bharat Ko Jano'.

The University also celebrated Vishwa Hindi Diwas by hosting a variety of events for students, such as Kavita Vachan, Kahani Lekhan, Nibandh Lekhan, Pratibha Pradarshan and Hasya-Vyangya Pratiyogita.



Fit India **Cycle Rally**

he National Service Scheme (NSS) unit of Jain (Deemedto-be University) organised a 'Fit India Cycle Rally' in collaboration with Wilson Garden Traffic Police Department, Bengaluru on 18 January, 2020. The event was part of the initiative called 'Rashtriya Raste Surakshata Saptaha'.

More than 90 cyclists including students and faculty members of JAIN and 12 members of the Police Force of the Wilson Garden Traffic Police Department cycled through the designated routes in the city to spread awareness regarding the importance of fitness and a healthy lifestyle.





Speaking at the end of the rally, a spokesperson of the Wilson Garden Traffic Department acknowledged the role of the participants, and expressed that the department was happy to have collaborated with the NSS team of JAIN and that it looks forward to more such events in the future.

Volunteers, as part of the fitness and hygiene drive, proactively participated in cleaning the environs of the JAIN campuses. \Lambda

Marching Towards Gender Balance



he Centre for Research in Social Sciences and Education (CERSSE), Jain (Deemed-to-be University) in association with Konrad-Adenauer-Stiftung (KAS) organised a conference on 'Gender Parity and Governance: Prospects and Challenges' on 8 and 9 February, 2020 at CMS Business School.

The two-day conference was inaugurated by Mr. Peter Rimmele - Resident Representative of the KAS, New Delhi, and saw more than 20 academic papers presented by students from reputed universities across the country such as O.P. Jindal University, Haryana, South Asian University (SAU), New Delhi, Centre for

the Study of Developing Societies, New Delhi, Mohanlal Sukhadia University, Udaipur, Rajasthan, Assam University and University of Kalyani, Nadia and colleges from Mysuru. Professors, research scholars and students from JAIN, Bangalore University, St. Joseph's College and Presidency College also participated. Present on the dais were Dr. N V H Krishnan – Registrar, JAIN and Dr. Sandeep Shastri - Pro Vice Chancellor, JAIN.





The plenary speakers included Dr. Manjari Katju - Professor, Department of Politics, University of Hyderabad, Dr. Rekha Saxena - Professor, Department of Political Science, University of New Delhi and Dr. Rajeshwari Deshpande

- Professor, Department of Politics and Administration, Savitribai Phule University of Pune.



The deliberations revolved around the importance of bringing the gender angle in all levels of governance, be it the macro levels of federalism, judicial norms or within institutions and socio-political processes. The challenges of continuing patriarchal structures that perpetuate gender inequality, the gendering of safe city spaces, the 'silent vote' of women in politics, and the 'panopticon' of surveillance systems were among the host of issues discussed and deliberated by the participants.

The valedictory session was led by Prof. Sanjay Kumar - Director, Centre for the Study of Developing Societies, New Delhi.

Kritya - Annual Literary and Cultural Extravaganza

ritya, the Annual Literary and Cultural Extravaganza of the School of Sciences, Jain (Deemed-to-be University) was held on 28 and 29, January 2020. Now in its fifth edition, the festival was a culmination of a series of events and activities such as Aircrash, Fashion show, Mad Ads, Beat Boxing and Singing. The fest provided students an opportunity to showcase their talents on the theme 'Magic and Mayhem'.

Organised by Ukti, the cultural forum of JAIN, the inauguration ceremony of the





two-day festival was attended by invited colleges, directors, faculty members and students of the School of Sciences.







Off-stage events such as Poster Making, Solo Singing, Poetry Recitals, Meme Making, Dance Battles, Beat Boxing, Quizzes as well as Gaming events, PUBG and Personality Competitions were held on the first day. The highlight of the second day was the group dance competition. The performances were enhanced by spectacular light and sound arrangements. Cultural teams from SJCC, JAIN CMS, JAIN Jayanagar among others put their dancing talents on show. A Mock UN Session was also held.

Matrubhasha **Diwas Celebration**

ain (Deemed-to-be University), Bengaluru celebrated the 'Matrubhasha Diwas' on 14 February, 2020 to commemorate the 'International Day for Mother Language'. The programme aims to promote and preserve mother tongues of nations across the world and bring about awareness of linguistic and cultural traditions to inspire solidarity through tolerance and dialogue.

The objective of celebrating 'Matrubhasha Diwas' is to sensitise people on the need for pride and greater use of mother tongues as well as indigenous languages. Centred around the theme, 'Languages Without Borders' as observed by UNESCO, the programmes were designed to impart communication skills and proficiency in mother tongue as well as other Indian Languages amongst English-medium students and support translations from other languages to mother tongue.









Various events such as Vaachana Spardhaa, Prabandha Rachana, Bhashana Spardhaa, Rasa Prashne and Chitra Lekhana were also organised. Students were encouraged to speak in their mother tongue and were made aware of the importance of languages, literary contributions in these languages and prevailing cultural practices. The event also featured singing competitions in Kannada, Hindi, Telugu and Gujarati. 🔊

International Women's Day



host of activities was organised at the various campuses of Jain (Deemed-to-be University) to celebrate International Women's Day to promote equal opportunity for women in academic spaces.

A lecture on the topic, 'Let's fix the crown of each other' was delivered by Aparna Ramesh - Associate Partner of ATV Legal. Addressing the gathering on the issue of gender equality and women empowerment, Ms. Aparna said, "Every woman is unique in her own ways and we must stop comparing her to the male folk." She also noted that, "Work-life balance is something that is imbibed in us





A Mobile photography event was also conducted on the topic 'Nature of equity for women in the workplace'. The vicinities of Townhall in Bengaluru was the chosen area for the photography.

The winners were awarded during the valedictory function, held on March 8, 2020 with Ms. Shreya Krishnan - TEDx Speaker and Alumni, JAIN, presiding as the chief guest. "Feminism is all about existing and co-existing in the society when the choices are natural and also about equal opportunities. Equal opportunities in education, health care and job openings are the need of the hour," she said.

and we can work on it effortlessly."

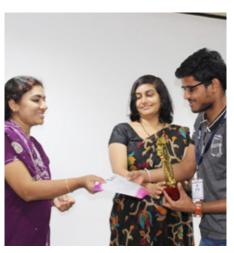
Pramila, a student of DSM Tech gave an inspirational speech on her arduous journey towards higher education. Her speech was followed by a Panel Discussion on the topic, "Should a woman be an entrepreneur or be employed?" The discussion brought to the fore the fact that there is ample space for women entrepreneurs in the society and the panelists agreed that since women possess the special skills of multi-tasking, they should use it in their career development.

In association with the Family Planning Association of India (FPA), a programme on 'Youth Dialogue on Establishment of Youth Friendly Centres at Universities' was also organised.

Dr. Padmini Prasad - Gynaecologist, Bengaluru, presided over the programme and presented a talk on 'Youth Sexuality' as well.







Meet Nemat Sadat Author and Activist

emat Sadat, author of the novel 'The Carpet Weaver', was invited for an interaction with the students of Jain (Deemed-to-be University) at a special event organised by the Women's Cell, in association with the Post Graduate Department of English, School of Humanities and Social Sciences on February 10 2020. Sadat shot to fame as the first Afghan national to openly come out as a gay before renouncing his Islamic faith, and emerge as an activist of the LGBTQIA community.

Nemat Sadat spoke at length the turmoil he has undergone as a gay from a minority community in a foreign land, his experiences of being marginalised, his family ties, and of course, what it is to be a sexual minority in Afghanistan his homeland, as well as in the supposedly progressive, inclusive West. He talked about his maiden book exten-





sively, which was published by an Indian publisher after having been rejected by numerous publishers in the West.

He lauded the Indian readership, publishing industry as well as the LGBTQI scenario. He expressed disappointment that major literary festivals in the country and abroad, have a very small slot for actual discussions of creative works and more for issues like climate change and the like.

The interactive session with students and faculty ensued with Sadat answering queries pertaining to his life experiences, his activism, the craft of creative writing and the challenges of publishing. The discussion also brought to the fore the epic proportions of his novel, that is not merely a tale of romance but one that weaves into the narrative, the socio political and cultural exigencies that impact the life of the protagonists.



Yuva 2020 - Intercollegiate Literary and Cultural Extravaganza



Dr. Ruby John - IQAC coordinator and Major Dr. Rekha Sinha were also present on the dais.



UVA, the Annual Intercollegiate Literary and Cultural Fest of Jain (Deemed-to-be University) took place on February 28, 2020. Organised under the aegis of the Post Graduate Department of English, School of Humanities and Social Sciences, the fest offered a platform to promote interactions and collaborations among students.

As a curtain raiser to the event, a flash mob was held on February 27, 2020 at the School of Humanities and Social Sciences, J C Road, JAIN and Maharani Arts College. The main event was held the following day, with Major Dr. Rekha Sinha - Director, School of Humanities and Social Sciences, JAIN lighting the Ceremonial Lamp. This was followed by the Spirit of Oath, a solidarity and friendship pledge that set the tone for the events that were to follow-Cooking, Quiz, Pick & Speak, Mad Ads, Mime, Singing,

Dancing and Art Expressions (Painting, Sketching, Collage, Photography, Face Painting and Poetry Writing).

The winners and participants gathered in the evening for the Valedictory Function where Mr. Ravindra Bhandari - Vice President, Jain Group of Institutions delivered the Valedictory Address.





Book Launch Fiber Reinforced Plastics



ain University Press, the publication division of Jain (Deemedto-be University) launched its latest book 'Fiber Reinforced Plastics' authored by Dr. C G Krishnadas Nair. The book was released on March 2, 2020 at CMS Business School, Seshadri Road in Bengaluru by Dr. S C Sharma -Director, NAAC (National Assessment and Accreditation Council), the chief guest of the event. Mr. Sadagopan -Ex-President, ISAMPE and former CEO, HAL Helicopter Complex received the first copies of the book along with Dr. R Gopalan - Executive Director, RV TIFAC CDC.

"This book touches on several aspects of composite materials and the author



has clearly delineated the various processes and types of tests. Charts and diagrams in the book along with relevant pictures give the book a fine appeal. It is my honour to release the book of Dr. Nair, a wonderful human being," said S C Sharma after the launch of the book.

Dr. N Sundararajan - Vice Chancellor, JAIN, Dr. Sandeep Shastri - Pro Vice-Chancellor, JAIN and Dr. S A Hariprasad - Director, SET- JAIN graced the occasion.









Speaking about his book, Dr. Nair said, "It was not easy to put together the content, as there is a dearth of references, particularly on the subject the book delves into, but I am glad I was able to overcome the same."

The launch was followed by tutorials on diverse topics by eminent personalities - Dr. R Gopalan delivered a talk on 'Employment and Entrepreneurial Opportunities in FRP Industries'; Dr. C G Krishnadas Nair gave an 'Introduction to FRP Composites and Applications'; and, Dr. Sunil Bhat - Associate Professor, Mechanical, JAIN talked on 'Materials for Fiber Reinforced Plastics'. The session concluded with lectures on Manufacturing Process, Safety and Repair, and Recycling of FRP Waste by Dr. Ashuthosh Pattanaik- Assistant Professor, JAIN and Dr. Sarath P C -Assistant Professor, JAIN.

Pongal Festivities

ongal, a revered thanksgiving winter harvest festival of Hindu deities was celebrated by the faculty and students at the School of Sciences, Jain (Deemed-to-be University) auditorium on January 3, 2020, as part of Ek Bharat Shreshta Bharat campaign.

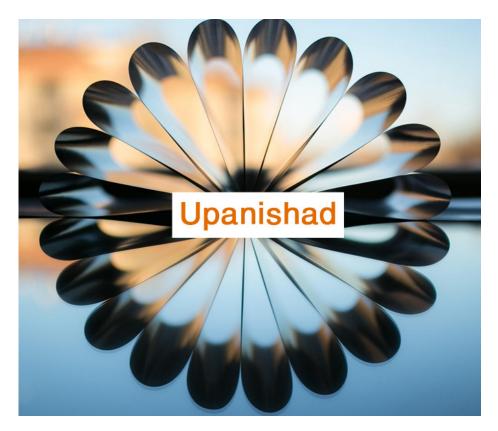
Clad in ethnic attire, participants presented activities to showcase the cultures and traditions of India. Kummiadithal and Uriadithal were some of the events showcased. Drawing of the traditional Kolam and cooking various Pongal delicacies were organised.

The celebrations also served to remind the participants of their rich heritage while inspiring a sense of unity among the students and faculty.





Cultivating Spirituality in Young Minds



Bipin Ram Agarwal - President, International Vaish Federation, Karnataka, Sanjay Garg - President, Agrawal Samaj, Karnataka, Vijay Saraf - Secretary, Agrawal Samai, Karnataka, Subhash Bansal - Former President, Agrawal Samaj, Rajesh - Founder, Youth for Seva, Mahantesh G K - Founder & Managing Trustee, Samarthanam Trust for the Disabled, Ritesh Goyal - Managing Director, GIBS Business School were other dignitaries present at the event. Dr. B T Venkatesh - Director, CDEVL, JAIN and Dr. Vasu B A - Director, School of Commerce, JAIN also graced the occasion.

The event explored the roots of the ancient Vedas and Scriptures teaching the youth to overcome challenges by evoking eternal consciousness. The students learnt about the power of meditation, boundless spirit and compassion which would give their life a valuable holistic meaning.

The event concluded with the felicitation of Guruji and Shri Tejasvi Surya. \Lambda

ain (Deemed-to-be University) in association with Darpan Foundation organised 'Upanishad', a spontaneous dialogue between Guruji Shri Nandkishore Tiwari - Profounder of Sahaj Smriti Yog and Tejasvi Surya - Member of Parliament, Bengaluru South, on the topic of 'Youth and Spirituality'. Darpan is a place, prototype, model and module, all rolled into one that mirrors the individual transformation from a consumer to a divine being. 'Upanishad' aims to create a platform where students can discover their inner strengths.



Swachhata Pakhwada for Cleaner Tomorrow

ain (Deemed-to-be University) observed Swachhata Pakhwada, a cleanliness awareness drive at its various campuses between 16 and 30 January 2020.

Students and faculty members of the School of Sciences, Jain (Deemed-to-be University) took the Swachhata pledge with the intent to spread awareness about cleanliness at home, at the work place and in larger social spaces. Students from various departments of the School of Sciences and Business Schools participated in poster making and slogan writing competitions based





on the theme 'Water Conservation and Forest Conservation'.

An environmental initiative at the grassroot level saw students and NSS volunteers participate in a plantation drive and visited Hosahalli, Chikkasadenahalli and Doddasadenahalli villages and along with the local community planted 250 saplings.

Dr. Salamun DE- Asst. Professor and Coordinator, National Service Scheme (NSS) encouraged the students to actively participate in the cleanliness drive.

The staff of departments of Biotechnology, Microbiology, Biochemistry and Physics along with NSS Volunteers actively participated in cleaning the college environs.









A Talk Show on Swachhatha was also organised. M

Hindi Parishad - With Author Chandan Pandey



he School of Humanities and Social Sciences, and School of Interior Design, Jain (Deemed-to-be University) organised 'Hindi Parishad' on 26, February 2020. The event saw an interactive and novel reading session of the constitutional legal fiction genre titled, 'Vaidhanik Galp' authored by Chandan Pandey. Chandan Pandey, a Jnanpith

Awardee and Keshav Karan, writer and freelance journalist were invited as the chief guests of the programme.

The novel aims to enlighten the youth about the social ills prevailing in our society, which may appear to have legal sanction, yet do not. Addressing the gathering, the author shed light on how the theme was conceptualized, and

also gave insights on the development of the novel's characters. Chandan Pandey hopes to show the right path for the present and upcoming generations while creating awareness on social ills through the medium of literature.

71st Republic Day Celebrations



ain (Deemed-to-be University) celebrated the 71st Republic Day with great pride on January 26, 2020. Major General Narpath Singh Raj Purohit - VSM, MG ASC, HQ Western Command was invited as the chief guest for the celebrations. Led by Maj. Dr. Rekha Sinha, the NCC Cadets put up a splendid maxrching parade, first performing 'Salami Shastra' and 'Baju Shastra' to welcome the guests. This was followed by hoisting, unfurling the flag and rendition of the National Anthem, Jana Gana Mana. During the event, the students presented a captivating fusion of Karate, Advance yoga, and Bharatanatyam before Major General Narpath Singh Raj Purohit addressed the gathering. In his inspiring speech, the decorated officer reiterat-



ed the significance of India's Republic Day, as the day when the Constitution of India came into force thus bringing to closure the transition towards becoming an independent Republic. The participants who completed the Thal Sainik Camp (TSC), an annual camp conducted in New Delhi for Cadets selected from different directorates to take part in diverse competitions, were felicitated at the programme.

Revisiting Liberal Education in India

he term education has its roots in the Latin word 'educare' which means 'to know'. The meaning can stretch to areas to include an understanding of the world around us and information in disciplines that can be clubbed together to form the broader umbrella of knowledge. In the contemporary global world, knowledge is of paramount importance and reigns supreme as it constitutes the path for a degree that may possibly lead to a job. Yes, jobs are important! So, what is it that we are trying to get at? The obviously undeniable reality

that emerges is that education is relevant to obtain knowledge and that it provides a pathway to a job. If this is the kind of straightjacketed thinking that envelopes our mindset, the beauty of 'education' fades into oblivion. As faculty who have worked in the spectrum of higher education for a long span of time, we are concerned about the state of education. Through this article we would like to elaborate on how the 'rigidities' in education have robbed the true essence and revisit 'liberal education' as the ray of hope in our educational landscape.

The Gurukula system of education in ancient India captured the spirit of education as an 'individual' was exposed to the guru's wisdom. This transcended the knowledge that we are speaking about and that is compressed in various boundaries. Nalanda, Takshashila, and Shantiniketan stand out in history as exemplary centres fostering holistic development of students in an environment permeated by a free exchange of thoughts. The tragedy lies in the fact that while these epitomes of knowledge exist, the spirit of education has been corroded under the impact



of the colonial rule. Agreed that the extensive networks of schools, colleges and universities exist because of them, but this 'job' mentality has permeated the atmosphere thanks to them. History bears testimony to the fact that the colonizers educated Indians to fulfil their administrative requirements.

With the structures of education emerging and continuing, learning has also become 'structured'. Each level of education manifests the structure with reference to curriculum, design and pedagogy. We will speak about this mainly in the context of higher education and will also refer to the ideas of certain thinkers whose views on education make a lot of difference. In universities and state-affiliated colleges, the syllabi is prescribed and teaching-learning practices revolve around the same. What happens to that knowledge and wisdom that we are speaking about? As long as one is 'exam' oriented, things are fine. One cannot think about any departure. Our experiences in this framework made us claustrophobic. Where is the freedom? Why is it that every university exam focuses on one right answer? What about multiple answers? This takes us to our socialization processes which specify that there is only one ending and that people are either 'good' or 'bad'. How can these be exclusive categories? What is the youth turning out to be?Just like how Ivan Illich in his book "Deschooling Society" had written - that they confuse teaching with learning and getting good grades with 'education'? What happens to critical thinking, the ability to converse or engage in a dialogue in terms of the skills that Paulo Friere in his book "Pedagogy of the Oppressed" has broached upon? Is 'learning' in the true sense of its term a mere one way traffic with the students just being recipients of information? These are some of the critical questions that we raise. In the light of these, we feel that there is a need to revisit the entire philosophy of liberal education in India.

There is a popular perception, misconception that liberal education on the Indian scene is a new concept. We beg to differ. We have spoken of the gurukula system and the other centres of excellence that existed earlier. Liberal education has been a part of our civilisation. However, it took a backseat for the same reason/s mentioned earlier. Now, there is a ray of hope with this entire philosophy sweeping the country as private initiatives have plunged into it in a big way. To give it a boost, the Draft National Educational Policy, 2019 speaks about making this integral to our education. Thankfully, it goes beyond the private. There are multiple reasons for endorsing this philosophy that equips a student with 'freedom' to navigate through the disciplines to understand where his/her interest lies. This marks a departure from 'structured' modes of teaching-learning and making choices based on influences from extraneous agencies like family, peer group and media among others.

Deeply embedded in the multidisciplinary/interdisciplinary/transdisciplinary outlook, liberal education provides ample opportunities to students and faculty to engage in a meaningful endeavor. The symbiotic relationship between the 'teacher' and the 'taught' serves to add more to the

already existing body of knowledge. The classroom can be visualized as a space marked by a plethora of views rather than an arena that churns out conformists! Questioning and probing are at its peak and what's wrong with that? If there are no questions, there are no answers! Moreover, why should there be one answer?

As citizens, we need to be sensitive to our surroundings – local, regional and broader cultures that we are a part of. When we look at the youth speaking about issues, at times there is a completely apathetic attitude. For example, we may belong to affluent families, completely untouched by the sordid realities. However, assuming indifference only amounts to a myopic vision! There is a need to step outside one's comfort zone and to touch base with 'reality' as it exists and which may affect as directly or indirectly. We would like to counter those who embark on a 'discourse' that this may not lead to jobs. It does and more so in a refined manner. Technicalities and broader visions can be fused together. Knowledge, skills and experiences blend together to make us face various challenges in any space.

To conclude, we would like to spread this philosophy into our different spaces – micro and/or macro. Knowledge should move beyond the silos. Flowing in different directions, with a lot of exchange, there can be something more beyond what we can envisage! Let the thoughts flow, let voices be heard, let there be experimentation and it can go on and on because at the end of the day, you only gain!!

Women's Health – Balance for the Better



umanity has moved into the 21 Century, and women have taken enormous strides in every walk of life; yet, concern for her health and the society's concern for her health are still way below in the priority list. The unique and indispensable contribution of a woman to the family and society in numerous roles at all stages of life - from birth to demise, and in all their heterogeneity justify commanding the limelight in today's global health agenda.

Although men and women are susceptible to several common health problems, the difference in their constitution - physical, physiological and psychological - necessitates a different approach to their wellbeing. Among others, her childbearing role demands a special consideration, for the well-being of the next generation is directly dependent on her health.

Women in India face significant gender inequalities and are subsequently more likely to experience disadvantages and differential treatment in all spheres of their lives. UN ranks India as a middle-income country and scores it very low on gender equality. Women's access to quality healthcare is not an exception. During the 18 and 19 Centuries gender roles were clearly defined, such that men earned a livelihood and women managed household chores and raised children, which eventually became the epicenter of power struggle between the sexes. Without economic independence and being relegated to a subordinate position, women's needs, including healthcare, were neglected. Besides, a certain stigma was created around critical stages of her hormonal journey, be

it menarche, menstruation, child birth or menopause. Even as movements for women's empowerment gained momentum in the last 5-6 decades, gender roles remained intact and added extra pressure on the women, as they began to seek economic independence and social and political equality. During this transformative phase, society chose to ignore that women's health largely determined the health of the entire family.

In the context of World Health Organization's definition of health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, the current state of women's health, globally, is indeed a cause for concern, especially in the developing countries. Women's

health is influenced not just by their biology, but also by social and economic conditions such as poverty, employment and family responsibility. Owing to biological design, varying hormonal cycles, pregnancy and menopause are specific to women. Besides, conditions like cardiovascular diseases and osteoporosis, which affect both genders, manifest differently in women.

While the health issues confronting women around the world have several similarities, there are often startling variations too, owing to their diverse environments, whether social, cultural, political or economic.

Women's healthcare is still in the evolutionary stages in India. Despite the enormous progress in science and technology, Indian society for the most part still remains patriarchal and superstitious. The desire for a male heir and the differential treatment of women have pushed them into the cycle of repeated pregnancies and abortions leading to anemia and malnutrition, putting her life at great risk. India has contributed to nearly 20% of all maternal deaths worldwide between 1992 and 2015, and this is mostly because of economic and cultural disparity in access to healthcare. In rural areas, unhygienic, unprofessional home birth is still in practice and the rural population remains unaware of postpartum depression and often treats it by performing rituals, rather than seeking counseling or medical help. A majority of them breathe their last in the few days after giving birth because of anemia, which can be treated inexpensively by just consuming natural or medicated iron supplements.





Reproductive or fertile years for women, between menarche and menopause are likely rich and gratifying, and have an enormous influence on their health and well-being. But it is also the period of health risks directly related to sex and reproduction, resulting in substantial mortality and disability burden.

"There are 3 stages in a woman's health life journey which we call the ARM — Adolescence, Reproductive and Menopause. Across the spectrum, a woman faces many health issues depending on her age," says Dr. Hema Divakar, Consultant Obstetrician and Gynecologist. She further adds, "A woman's adolescent stage is beset with issues related to nutrition, menstrual disorders, obesity and anemia amongst others. Reproductive issues involve irregular menstruation, fertility, cervical screening, contraception, pregnancy, sexually transmissible infections, chronic issues

such as endometriosis (uterine tissue grows outside the uterine cavity) and polycystic ovary syndrome. Menopause comes with issues of reduced or lack of sexual drive, menorrhagia (prolonged and excessive menstrual bleeding) and women specific cancers of the endometrium, breasts, ovary and cervix, besides fibroid issues etc. Menopause is a step into a new period of life and brings a different set of issues, which unfortunately, many women are unaware of and unprepared for. Though menopause heralds a life phase free from cramps, premenstrual mood swings, monthly bleeding, pregnancy, it also introduces biological variations that no one would ever talk about." Although it takes two to bring new life to the world, women alone face health problems associated with pregnancy and childbearing, which in this age group is the cause for 14% mortality rate, globally. Besides, women

entirely shoulder the consequences of abortion, whether by chance or choice. Her unique physiology and poor lifestyle make her vulnerable to hormonal changes which may cause gestational diabetes (which might continue), type 2 diabetes, thyroid imbalances, disorders of the pancreas, Polycystic Ovarian Syndrome/Disease (PCOD/PCOS).

Research reveals that 5 out of 10 women suffer from PCOS/PCOD. Mental health issues such as depression due to abortion, stillbirth or birth of a malformed child is a big risk, besides post-partum depression, which every woman experiences, although, mild in some and acute in others, is also on the rise. A woman needs to be her own health advocate, by maintaining a balanced diet, exercising, managing stress and reaching out to a competent and qualified healthcare professional.

Nutrition

Socio-economic conditions, lifestyle, and sheer apathy are causal factors for malnutrition among women. India has one of the highest rates of malnourished women among developing countries, according to a WHO report. Malnutrition results in maternal mortality and child birth defects.

Nutrition and daily exercise throughout life are the keystones of good health and vitality. Women's nutritional needs change during every stage of her life, especially during menstruation, pregnancy, breastfeeding and menopause. While the teen girl requires calcium rich nutrients, young adults need more calories to sustain metabolism. Folic acid, calcium, proteins and fat rich nutrients are essential before and during pregnancy, whereas the menopause phase of a woman calls for a calcium and vitamin rich diet intake, since estrogen levels deplete at this stage.

Nutritional needs are also different during a woman's menstrual cycle due to hormonal changes. In the premenstrual stages, calorie requirement intensifies and some women crave for specific foods and their overall food

intake also increases. Engrossed in the multiple roles they play, women neglect nutrition and consume high-calorie, less nutritious, spicy and packaged foods, which have adverse heath impact. Stress-induced eating disorders are a major cause for malnutrition.

Healthy eating or a balanced diet implies consuming fruits, vegetables, whole grains, nutritious fat, and proteins and dairy that are natural energy boosters.

"Nutritious eating involves choosing distinctive types of solid nourishment from all nourishment bunches like the carbohydrates, proteins and fats in the right amounts. Although we reside in a food surplus society, people are nutrition deficient, because they do not practice good food habits. A human body needs

the right amount of carbohydrates, proteins and fats and there is this wrong notion about consuming fats amongst people. Almonds, walnuts, paneer are the natural sources of good fats and should be an essential part of your diet in the right quantity," says Dr. Vishwanath, lifestyle and well-being expert.

Compared to men, women have lesser calorific requirements to sustain stable body weight and activity level, since women have more body fat and higher estrogen levels and fewer muscles, although women with hyper-active lifestyle require more calories. Physical activity in the form of exercise, yoga, sport help with flexibility, muscle strength and stress management.



Non-Communicable Diseases

Research shows that non-communicable diseases (NCDs), most commonly cardiovascular disorders, tumors, osteoporosis, infectious diseases, diabetes, hypertension, depression, and musculoskeletal disorders are the greatest threat to women's lives. NCDs account for the death of more than 18 million women each year globally, says a report from John Hopkins Medical Institute. Irrespective of income levels, cardiovascular, kidney and respiratory diseases,

besides stroke, and trauma are considered leading causes of death among women. NCDs are the biggest killers, although psychiatric and neurological conditions are primary threats to women's health.

WHO reports that 75% of the deaths by chronic diseases are from the developing countries. While diabetes and the problems related to it have tripled in the last decade, cardiovascular diseases are alleged to be the leading cause of mortality across the globe. At this rate NCD's are suspected to be the major cause of deaths especially in women in the current decade.

"Auto-immune diseases are one of the major causes of death today. People are not sufficiently educated about such diseases; hence they ignore symptoms and only visit doctors, when they aggravate. By the time the ailment is diagnosed, it would have reached an incurable stage. Besides, a majority of those diagnosed at the curable stage lack access to health care and that's how the mortality rate increases. The irony is that many general physicians are also not sufficiently aware of several auto immune diseases and fail to identify associated symptoms. Awareness is as important as access to efficient healthcare," says Dr. Vijay Rao, Rheumatologist.

Women and men have varying susceptibility levels and sensitivity to risk factors associated with NCDs. Women are more susceptible to obesity than men.

Increasing obesity among women makes them vulnerable to NCDs, especially diabetes. Two of every three deaths of women above 40 years are attributed to NCDs such as heart failure, stroke, cancer, diabetes, and chronic respiratory diseases.

"I had a major stroke a couple of years ago due to a chronic heart disease, which I was not even aware of. I was only in my late 30s. I was admitted to the hospital, following a sudden stroke and only then did I realize that I had a chronic heart ailment. This was a shocker to me and my family because I had never complained of any heart related problems



earlier. A physical education instructor by profession, I've been sensible about fitness and have been conscious of my diet too. Yet, I suffered from this ailment. I understood then that a regular health checkup could have helped diagnose the heart ailment in the earlier stages and prevented the stroke," says Aruna Kumari, a physical education instructor at a school.

Musculoskeletal Health

The human body is prone to musculoskeletal disorders related to muscles, bones and joints and many of these injuries and illness appear to affect women more than men. Lower bone density of women as compared to men, higher rate of drop in bone mass among women than men with age and the decrease in estrogen levels closer to menopause are some of the attributing factors for their orthopaedic-related woes.

Variations in male and female structural anatomy, hormones, and genetics influence the bone build. Difference in bone anatomy, muscle strength and neuromusculature of woman makes them susceptible to bone injuries.

"Women are more prone to certain orthopaedic conditions owing to their biological anatomy potentially due to stabilizing strategies. With respect to orthopaedic concerns, women need to be more wary of their bones and their strength. Besides lower bone density, pregnancy also lead to a higher risk of orthopedic disorders in women compared to men, especially in the back and spine," says Dr. Kiran, Orthopedic.



Along with injuries like frozen shoulder, ACL (Anterior Cruciate Ligament) injury, neuroma, spondylosis and spinal stenosis, ankle injuries like ankle sprains, anterior tibialis, tendonitis and posterior tibialis tendonitis are more common in women than men. Osteoporosis affects women four times more than men due to menopause-related drop in estrogen levels.

Since osteoporosis is a chronic condition that causes weakening and thinning of bones, making them brittle, and increasing the risk of fractures, it is a common but hazardous condition. Hips, spine, arm, leg and wrist bones are most frequently affected by osteoporosis.

Mental Health

Mental health, irrespective of gender, is just about gaining importance and is beginning to break the barriers of stigma. Although, in urban areas there is a raise in awareness, semi-urban and rural areas are still in the dark regarding mental health and its impact on the physical body.

Mental wellbeing is imperative to both men and women. Genetic and socio-cultural factors make them more susceptible to mental disorders. Though the area was under-researched for long because woman's mental health was brushed off as inconsequential, the

Centre Piece



society is far more open today and the medical fraternity is making progress in this area.

Many women struggle to share their mental health troubles owing to the stigma attached to it. It was only after actress Deepika Padukone opened up about her experience of depression, that many metropolitan and cosmopolitan women started sharing their experiences. The social stigma around it makes women from tier II and III cities remain

in a cocoon of denial. While we still live in a society that is filled with forbids around menstruation and menstruating women, discussing mental health and its implications has a long way to go. Maintaining hygiene during periods is essential, but the taboo around it – that menstruation and menstruating women are impure during the natural cycle - has resulted in the victimization of women. Along with this, undesirable experiences like unequal economic and social conditions, infertility, premenstrual dysphoric

disorder, infertility, unemployment, postpartum depression can affect a woman's mental well-being.

Dr. Gururaj, a Consultant Psychologist talks about gender differences in mental health symptoms, which necessitate a different approach to treatment as well. "The approach to treating women is different compared to men with the same diseases. Although the prevalence of schizophrenia and bipolar disorder is the same for both men and women, they experience symptoms that are quite different from those seen in men."

Explaining that depression, anxiety and bipolar conditions are predominant, he says that the manifestations and symptoms vary greatly between the genders. "Since all these mental disorders are driven by hormones, women are most likely to be affected more because of hormonal variations all through their lives. Depression comes as an add-on to women suffering from thyroid and PCOD. When left untreated, the severity increases in some cases leading to suicide. This is why many family members cannot comprehend why their 'happy looking' wife/daughter committed sui-



cide. Mental health deeply affects the lifestyle too and vice-versa. Watch out for sudden withdrawal syndrome, entering dark mode, especially when surrounded by people, as these are the initial symptoms of deteriorating mental health," he points out.

Body shaming too can push many women to depression. Women across the globe are under tremendous pressure to 'fit in' or 'match up' to artificial conceptions of beauty and propriety. Negative body image, especially in terms of body weight, has led to anorexia and bulimia. Natural bodily changes such as graying, skin wrinkling, body fat are expected to be 'covered up' or better still 'eliminated' to be acceptable to the 'male gaze'. Most women, having internalised these expectations, traumatise themselves as well as other women, to fall into the 'acceptable' category.

There is an increased risk of mental illness connected with the most common types of violence against women such as domestic abuse, sexual abuse and assault, acid attacks, and victimization which are abetting factors for suicide. A study conducted by the All India

Institute of Medical Sciences (AIIMS), the Indian Statistical Institute, Prime Minister's Economic Advisory Council, and Harvard University, including 2,377,028 outpatients who visited the AIIMS medical facility from January to December 2016, found only 37% of women got access to health care, as compared to 67% of men. The research also found that majority of the women who sought healthcare were in the reproductive age group and that the rest of the women rarely make it for general check-up unless they are too sick. The study, conducted across India, revealed that the data varied from one state to another.

Traditionally, society has conditioned women to be embodiments of very high threshold of resilience and silence and women's health has never been the priority. Lack of female doctors too is a reason why rural women shy away from seeking healthcare. Unethical practices among some doctors is also a deterrent. Corporatization of healthcare is an added disadvantage for healthcare seeking public from economically backward families.

Access to sexual and reproductive health measures, reliable information for balanced lifestyle, physical and mental health, will help women achieve optimum health and wellbeing.

Women being the most important facet of 'population health' makes it imperative that the governing bodies and the medical fraternity dedicate more time, energy and resources towards focused and dedicated research and development and efficient and equitable delivery of healthcare facilities to the grassroots communites. While the small percent of urban women have better access to healthcare, the large majority of women in semi-urban and rural areas still remain deprived.

Women are vital to a stable, prosperous economy and are producers, caretakers and consumers; the economy stalls when they're marginalized and devalued. Effective participation by women in the workplace depends on their desire to understand their basic human rights like the right to health.





indu Subramaniam and Ambi Subramaniam, children of music power-couple renowned and celebrated violinist Dr. L Subramaniam and acclaimed Bollywood singer Kavita Krishnamurthy are accomplished musicians in their own right. While Ambi is a violinist, composer and educator, Bindu is a singer, song-writer, entrepreneur, author and music educator. When I met them on a warm Saturday morning for this interview, I was met with even warmer smiles which set the mood for the conversation.

Born in California, but raised in Namma Ooru, Bengaluru is definitely their home and close to their hearts. They did much of their education in Bengaluru. In fact both of them are alumni of Jain (Deemedto-be-University). While Ambi did his BBM here, Bindu has done her MPhil here. Incidentally both of them have also completed their Ph.D from JAIN. Bindu's research is on music education - "New methods of teaching music to 3-10 year old children". Ambi's research is on violin technique - "Emergence of a Global Violin Technique".

We often hear about educational institutes not allowing students to pursue extra-curricular activities. What has been your experience in JAIN?

Bindu: Dr. Chenraj Roychand never made us choose between studies and passion, and that is a powerful way of empowering youngsters.

Ambi: Exactly, and if you are forced to choose, you end up doing neither very well because you are upset about not



being able to follow your passion. I remember Dr. Chenraj stating clearly in one of his speeches at college that if anybody wants to pursue their passion in any field, be it arts, sports, or any other, then JAIN is the place for them.

Coming from a family of musicians, it is only natural that you have been exposed to music from a young age. But when and how did you decide that this was going to be your profession?

Bindu: I studied law and did several internships with the advocate-general of Karnataka. Although it was a very interesting line of work, I realised it didn't resonate with me. Law is not what I

Expressions

want to practice for the next fifty years of my life. But, I could associate myself strongly with music.

Ambi: I always enjoyed music and it was always there around me. I think I was 13 years when I decided to pursue music for life.

At 13? That is a young age to make such a decision!!!

Ambi: I know. But life was slowly moving in that direction. I guess I realised that maybe music is the path and that it will work out for me. You begin to believe at some point that maybe you can work in a certain direction and that it will make you happy.

Even though both of you are formally trained in Carnatic, you have not strictly stuck to its repertoire. Your music has influences from around the world. Is that correct? Tell me a little bit more about your music.

Bindu: What I do is bring in elements of Western Classical, Contemporary and Jazz to a point where it meets traditional Indian music or Carnatic music. I do not do completely classical performances, but I try to create a different space using these different musical elements. But Ambi does a lot of pure Carnatic music.

Ambi: Yes, but it depends on the kind of concerts that we are doing. There are Carnatic concerts but there are also fusion and orchestral concerts. In that sense, it is liberating for me as an artist, since I don't have to choose any one type. It's always exciting to be able to do different things and challenge yourself.



But then how do you plan your concerts? How do you add different elements of Jazz and pop to your music?

Bindu: It is an ongoing process. We do have a basic framework but it largely depends on the kind of concert we are performing and the audience.

Ambi: What we look at is the dynamic level of the concert. What moods we want to create. At what point we want to excite the audience and at what point we want to calm them. Once we start looking at that dynamic, then we can figure out what songs we want to create for the moods we have in mind. And of course, there are other factors, for instance, if the demographic is young people, our approach also changes.

Bindu, was it difficult to be an English singer/song writer? Did people object to your choices given that your father does Carnatic and mother does Bollywood music?

Bindu: That is something I kind of grappled with quite early on. When you have these two amazing role models at home, why would you choose a third thing? But I realised that what I need to do is my most honest form of expression and the music that I am making is truest to my voice. I identify very strongly as a song-writer and that is also what I have studied at Berklee College of Music.

Having legends for parents can be a double-edged sword. How do you handle that?

Bindu: I have reached a point where I am very grateful for the love we are receiving from people who have seen music in our family for generations. We have been able to hear up-close musicians of the highest order and



that exposure has had a very powerful influence on us. But when you reach a stage where the only expectations you are trying to match are your own, then you can be comfortable with everything that is going on around you.

Ambi: One advantage I had is I started very young. If I had started a little late, probably these pressures would have been active on my mind and that can kill you before you even start. Whatever expectations other people have of you, will never be as much as the expectations you have for yourself. And in some way if you can live up to your own expectations, many things take care of themselves.

Let us talk about Subramaniam Academy of Performing Arts (SaPa) - how did it start? And what is SaPa in Schools (SiS)? And how are the two different?

Ambi: My parents started SaPa in 2007.

The idea then was to create a home for global music. We took over in 2011. In SaPa, we take in kids as young as 3 years and work in a multi-disciplinary approach so that you have a kid who is

learning Carnatic vocal and Western or a kid who is learning violin and drums. The idea is that they learn things which complement each other and helps in creating an identity for themselves that is unique.

Bindu: We have devised our own assessments and exams. We wanted to create a graded system in Carnatic Classical music. It helps kids set goals for themselves, and parents understand what the kids are doing.

Ambi: SiS is about making music available to everyone. It is about presenting music in a way that young children can learn and appreciate. But in SaPa, the goal is to nurture talent and make professional musicians.

Bindu: The teachers who are with us have worked hard, because our teacher training program is intensive. It is



Expressions



important that the teacher is well trained and is able to inspire kids. Music from anywhere in the world is great, but how the child appreciates music is up to how the teacher presents it.

Let us again come back to music, and specifically to your collaborations. Was it challenging to do collaborations? What are your experiences?

Ambi: The most important part of a collaboration is to understand the musical space the other person inhabits. It is important to first understand their music and what they are trying to communicate. The ultimate idea is to create something in a new space which is neither yours nor theirs, and both are comfortable, but at the same time you are stepping out of your zone and pushing yourself a little bit more.

Bindu: This was precisely what we were looking at when we started our band *SubraMania* in 2013, because as adults we had never collaborated and it was interesting to see the numerous points of intersection.

And then came the Thayir Sadam Project (TSP)...

Ambi: Yes. What is interesting for all of us (Mahesh playing the iPad and Akshay on the mridanga) is that we have four different perspectives on what we do, and we complement each other.

I guess one of the best collaborations was for Chakravakam with Ranjani-Gayatri? And you released a jam track so that people could perform too.

Ambi: It definitely was. Once a piece of

music is created, it belongs to everyone. With over 200 different versions of the jam session pouring in, it showed us the different kinds of talent that is out there and it humbles you that what you are doing is just a speck.

Public performances come with an equal measure of bouquets and brick-bats – how do you handle that?

Ambi: Sometimes it is important to know what feedback to take and what to quietly ignore.

Bindu: Feedback falls at both ends of the spectrum. You may have someone who comes up to you and say, 'you are the best musician, ever'. You have to respect that and ignore it. But someone else may say, 'you will never be as good as your parents'. So respect that and ignore it as well.

Ambi: After the end of every performance, there is that internal voice which is always brutally honest with you and this voice must never be switched OFF.

What is your advice to aspiring musicians?

Bindu: I think it's important to work every day and set the right internal goals for yourselves, becaue if you are looking for external validation, you are never satisfied. Even if you are taking really small baby steps, make sure that you take those steps every single day. It is that consistency and hard work that will take you everywhere.

Ambi: I think it is also very important to work on skills. We need to make sure

we have the skills and be ready when the opportunity comes along our way. We cannot start working on our skills at the nth moment.

Bindu, you are a mother. There are many young women, young mothers out there who want to pursue music but have difficulty finding time, because they are constantly juggling many roles. What is your advice?

Ambi: I think it is important to be kind to yourself. As mothers and as women in general, we feel that we have to be doing everything all the time and it is hard and it doesn't get any easier with time. You definitely have to plan your time, but if you set these unrealistic expectations, you are never going to be happy. At some point, you have to realise that in order to do all these things, there is some trade-off. Maybe one day, if you really have to practice for an hour, your kid will end up in front of the TV for that



one hour or a mountain of laundry gets piled up (laughs). It is a balance. Some days everything will happen and some days nothing.

Since you work with kids, what advise do you have for parents - what is the kind of environment that parents have to create at home to nurture their kid's talent?

Ambi: For us here at SaPa, it is not important to make 10year-olds into child prodigies but to focus on making musicians who are great at 30. It is about consistent hard work for the right reasons - not just getting on stage or winning a competition. The focus here is not on instant fame but on making that fame sustain over a long time and for sheer quality.

Bindu: Parents must create a structure for children and also set the right kind of goals for them which may be, 'I want you to be a good musician' or 'I want you to be technically proficient' and not 'I want you to be famous' or 'I want you to win this competition'. Kids are especially psychologically vulnerable and we must not set them up for failure with unrealistic expectations.

How do you see the future of music, Carnatic music in particular? Do you feel there is a need for Carnatic music to change to attract the youth of today?

Ambi: Carnatic music has always been dynamic. People who say that it is not so are either kidding themselves or do not know enough about Carnatic music. If you look at music from 30 years ago, 50 years ago and 70 years ago, it has

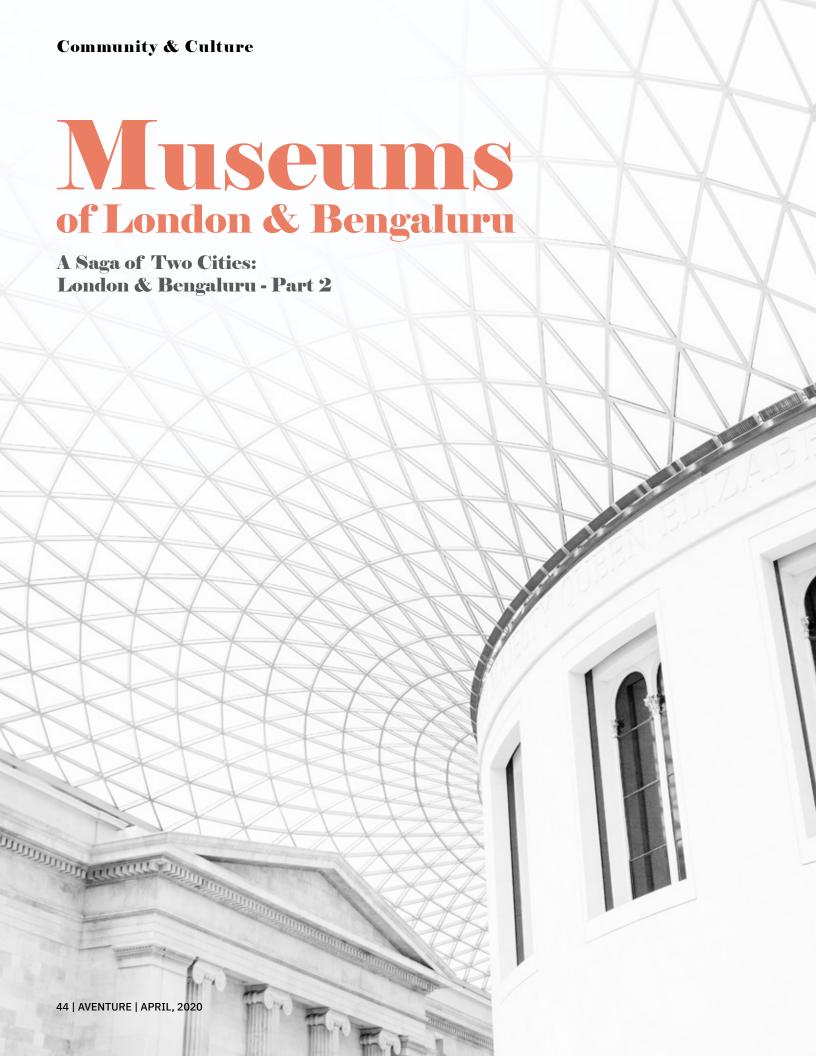
always been changing. Carnatic music has always been heavily improvised. Going into the future, you should be able to have pure Carnatic concerts as well as concerts where Carnatic is used in very different musical spaces and repertoires. As long as those two ends of the spectrum continue, then everything in between can thrive, and our music is headed in a great direction.

Bindu: And if you don't look at innovation and tradition as mutually exclusive and as at loggerheads, you do realise that it is innovation that gives rise to a new tradition. Music is a dynamic form of expression. As long as you respect that, respect the roots and respect certain frameworks there is always scope for.



Prashanth Bharadwaj

An engineer by profession and musician and music connoisseur by passion, Prashant works for MOOG India. A trained Carnatic classical vocalist, he has given many concerts including at the prestigious Mysore Dasara Festival.



useums are institutions that preserve, study and display artistic, historical or scientifically important and valuable artifacts that give an insight into the past, and help apply that knowledge to contemporary times. They are a reflection of the cultural heritage of a country. Every nation and city is obliged to preserve its creative and archeological assets. In this context, London has done a commendable job preserving its history and culture. What better fact to illustrate this, than its over 70 museums and art galleries!

The museums in Bengaluru not as rich and varied as in London in terms of numbers or dimensions. Yet, they do represent the cultural essence of the city.

Museums in **London City**

The Museum of London

(MoL) stands out as a classic repository of London's history. Located in the heart of the city, MoL is a short walk from St. Paul's Church and is accessible by road, metro and even by foot. The museum brings the fascinating story of London to life with its vast collection of stunning artifacts, interactive displays and atmospheric resonstructions.

Inaugurated by Queen Elizabeth II on 2 December 1976, the making of MoL was a herculean task. The determination with which it was successfully completed is an effective prelude to the museum. About eight decades back, the area



Museum of London

where the museum stands today was a hive of rag trade, crowded with furriers and silk merchants, milliners and hosiery agents, cravat makers and umbrella manufacturers. However, World War II changed its character forever.

The first bomb hit London on the night of 24 August 1940, a precursor to the blitz that lasted from September 1940 to May 1941. Three years later, between 13 June 1944 and 27 March 1945, V1 and V2 bombs wrecked further destruction.

The night of 29 December 1940 was the most destructive night and the blaze of the night is dubbed, 'The Second Great Fire of London'. This area was the heart of the inferno.



Site of Devastation

Police constables Arthur Cross and Fred Tibbs were deputed as official photographers to document the damage caused after each raid. These photographs, taken within a half-mile radius, are displayed on the walls as you enter the museum.

The construction of MoL on this site was part of an ambitious project to develop this part of London, called the Barbican Estate, following its devastation during World War II. The office block called Bastion House, seen directly above the museum was part of the scheme from the outset. A defining infrastructural vision for this area was the separation of pedestrian and motor vehicles by creating overhead pedestrian walkways or pedways.

Earlier, the exhibits were held by the City Corporation at the Guildhall Museum, and the London Museum, located in Kensington Palace. By way of the Museum of London Act of 1964, the collections of these two museums were to be consolidated and housed in a bigger museum. The first concept of drawing for MoL was produced in April 1964, with construction finally beginning in 1971.

The site of MoL offered quite a few challenges. It was a cramped space, wrapped by the 1920s Ironmongers' Hall, which had survived the war. It was located beside a new dual carriage way. Thus a new traffic roundabout had to be created.

The MoL was designed by Powell & Moya, a company that rose to prominence after its design of the iconic Skylon (a futuristic steel structure) in 1951, built on the occasion of the Festival of Britain. The architects Philip Powell and Hidalgo Moya adopted an innovative approach to museum design, such that a single route would pass through the entire museum - from the prehistoric galleries to the modern ones.

MoU was redesigned in May 2010 by London-based architect Wilkinson Eyre, and tells the story of London and Londoners from the Great Fire of 1666 to the present day.

In March 2015, the museum announced plans to move from the Barbican Estate to nearby Smithfield Market. Work is underway and is slated to be complete by 2021.

MoL has the largest urban history collection in the world, with more than six million objects on display. It comprises a series of chronological galleries containing original artifacts, models, pictures and diagrams with a strong emphasis on archaeological discoveries, the built city, urban development and London's socio-cultural life, with interactive displays and activities to attract visitors of all ages. Fragments of the Roman London Wall can be seen just outside the museum.

London may have grown rich, thanks to the Empire's colonies and slave rade; but it was soon proved that wealth was not a talisman against disease, infant mortality and sheer bad luck. The graffitied interior of a Wellclose Prision cell (where debtors had to pay their way out) seems a particularly apt exhibit in these credit-crunched times.

An imaginative recreation of Vauxhall Pleasure Gardens reveals a merrier side of Georgian life, showcasing a parade of elegant 18 and 19 Century fashion and eavesdropping on the after-dark fun enjoyed by Londoners of all classes.

The popular Victorian Walk has been



reinstalled, with its original period shopfronts and interiors offering a nostalgic glimpse of retail therapy in the age of Queen Victoria, right down to the last dry biscuit in the grocer's shop.

The People's City Gallery spanning the 1850s-1940s, a period of extremes, includes exhibits ranging from Charles Booth's infamous 1880s 'Map of London Poverty' to the fantastic 'Art Deco' lifts,



Mayor's Carriage

originally belonging to the Selfridges Departmental Store. Displays exploit the advent of film and audio recording in the 20 Century to recall the struggles of the first half of the century, such as the Suffragette movement, and the experiences of the World Wars.

The World City Gallery brings London's

story up-to-date, and looks at young people's experiences of London, from the coffee bars and mopeds of the 1950s to the swinging 60s and beyond.

In a city famed for pomp and ceremony, it's fitting that City Gallery should explore some of the rituals that distinguish the Square Mile (a colloquial reference to London which occupies an area of 1.12 square miles.) The Lord Mayor's Carriage, the 250 year-old throne on wheels (the highlight of the annual Lord Mayor's Show) takes center stage. A lot of life is crammed into this historic patch of land.

A 'Wall of City' includes curiosities such as a 'chainmail butcher's glove' from Smithfield Meat Market, a 1960s City Agent's 'bowler hat', and an 18 Century 'mineral water bottle' unearthed after the 1992 Baltic Exchange bomb.

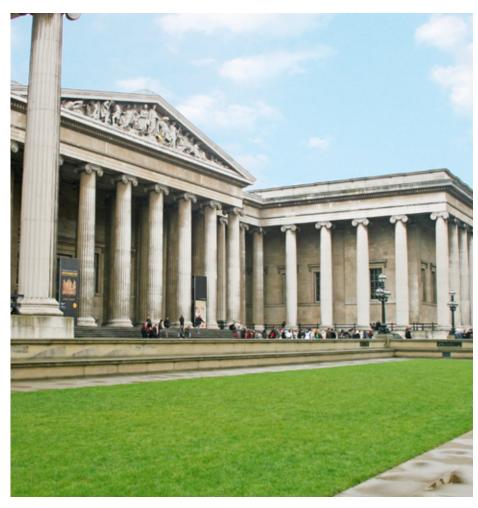
During the week, this part of London, the corporate hub of the city, buzzes with activity, but the weekend would be much quieter. There are cafes, and a bookshop with a comprehensive range of books about the city for those who want to dig deeper, as well as a large range of general gifts representing the icons of the city.

British Museum

It is not only the oldest in the world, but also has the biggest collection of cultures from around the world. With about five million visitors trooping through its doors annually, it is the city's most popular tourist attraction.

The Great Court inside the museum, transformed by a soaring glass and steel roof, was once an open courtyard. It is the largest covered public square in Europe and now houses cafes, shops and the information desk. It also houses the famed reading room, formerly the British Library, which was frequented by Mahatma Gandhi.

Egyptian Mummies at the Ancient Egypt Gallery stuns visitors for the preservation techniques adopted. The Mexican



A British Museum

Gallery is the youngsters' favourite spot. There are 15 free 30-40 minute eyeopener tours of individual galleries with excellent audio guides. Since the museum is huge, it is better to make focused visits.

Here are a few frequently visited rooms:

The magnificent **Room 1** contains a display of how collectors and travellers viewed and classified objects in 1753 when the museum was set up. In fact, it is an excellent introduction to the museum.

Room 10 houses some of the greatest carvings from the ancient world. They originate from the city of Nineveh, modern-day Iraq.

Rooms 38 and 39 are the Clocks and Watches Gallery, a collection of mechanical devices for telling time. It is a strange experience to be submerged in the cacophony of the ticking, striking and chiming of hundreds of clocks.

An impressive collection of casts of Persian, Mayan and Egyptian reliefs line the East Stairs. These casts, made in the 19 and early 20 Centuries, are replicas of the original objects that were damaged, or that disappeared from the sites.

Rooms 92 to 94 are Japan Galleries located at the very top of the museum offering a fascinating insight into the art, religion and everyday life of the Japanese, ranging from Samurai swords to Manga comic books.

Natural History Museum

One of South Kensington's 'Big Three' Museums (the other two being Victoria & Albert, and Science Museum), is famed for its dinosaur and fossil collections. It has evolved into one of London's most popular attractions since 1881, welcoming over four million visitors every year as well as supporting a 300 strong team of research scientists, working behind the scenes.

Built by Alfred Waterhouse, the original museum building on Cromwell Road is worth a visit in its own right. Its elegant Romanesque arches conceal an iron and steel framework (the last word in Victorian structural innovation), but it is Waterhouse's lavish use of terracotta that really distinguishes it. Beautifully detailed sculptures of plants and animals adorn both the interior and exterior of the museum, carefully distinguishing living and extinct species, originally segregated in the West and East Wings respectively.

The cathedral-like Central Hall is dominated by an iconic diplodocus skeleton, a giant plant eater famously known as Dippy. Dippy has been shrewdly placed, followed by the fantastic Dinosaur Gallery with its impressive overhead walkway culminating in the museum's



Natural History Museum

star attraction, a full size animatronics model of the grumpy T-Rex, guarding its kill.

The visitor can experience an earthquake in the Restless Surface Gallery, where a mock-up of the Kobe earthquake is recreated, complete with a shuddering model of a grocery shop, replicating the 1995 quake.



The Science Museum

While the Life Gallery at the Darwin Center showcases 28 million insect and six million plant species in a 'Giant Cocoon', the beautiful Wildlife Garden (between April and October), displays a range of British habitats, including a meadow with farm gates and a bee tree.

Science Museum

Next door to the Natural History Museum is the spellbinding seven-storey Science Museum with interactive and educational exhibits. The command module of the Apollo 10 Moon rocket, machines from the Industrial Revolution and the early steam engine are at display.

The third floor Flight Gallery is a favourite among children for its gliders, hot air balloons and varied aircrafts. The hi-tech Welcome Wing has an IMAX Cinema that plays travelogues, space adventures and dinosaur attacks in stunning 3-D. The Garden is the kids play zone.

Victoria & Albert Museum

Next in the block of museums of South Kensington is the Victoria & Albert Museum (V&A) dedicated to art and design of all varieties. V&A has 145 galleries exhibiting everything from ancient Chinese ceramic to the Sony Walkman, and exhibits stretching back to 3000 years! The Jewelry Gallery is outstanding for its elegant early Egyptian pieces, Greek and Roman collections to dazzling tiaras. The star attraction to Indians, especially Bengalurians, is Tippu's Tiger made in Mysore in 1793-94. It depicts a tiger mauling a British officer. Sound effects accompany this display.



Victoria & Albert Museum



↑ Imperial War Museum

Imperial War Museum

Built in 1917, the museum was intended to record civil and military war efforts of Britain and its empires during World War I.

Originally housed in Crystal Palace at Sydenham Hill, the museum opened to public in 1920, moved into Imperial Institute in South Kensington in 1924, and finally in 1936, it acquired a permanent home in the premises that was previously the Bethlem Royal Hospital in Southwark. Though expanded after World War II, in the post-war period, it declined. During the 1960s, the Southwark building was redeveloped and renamed the Imperial War Museum of London, which serves as the organisation's corporate

headquarters. During the subsequent fifty years it saw various developments and in 2011, the museum rebranded itself as Imperial War Museum.



Royal Air Force Museum

The collections include archives of personal and official documents, photographs, film and videographs, oral history recordings, an extensive library, a large art collection, and replicas of military vehicles and aircraft, equipment, and other artifacts.

Royal Air Force Museum

Located on the former Hendon Aerodrome, the Royal Air Force Museum (RAF Museum) includes five buildings and hangars showcasing the history of aviation and the Royal Air Force.



∧
Madame Tussauds

The museum, at the Colindale, London site was officially opened on 15 November, 1972 by Queen Elizabeth II. The hangars housed 36 aircrafts at opening and over the years, the collection increased, and the aircrafts not on display at Hendon were displayed at smaller local RAF station museums.

Madame Tussauds

Finally, no visit to London would be complete without a visit to the famous wax museum, Madame Tussauds at Marylebone Road. The big attraction here is a photoshoot with a celebrity wax model.

Museums in Bengaluru City

Government Museum

The father of museum culture in Bengaluru is Dr. Edward G. Balfour, a medical officer of the Madras Army, transferred to Bengaluru from Madras. Having established a museum in Madras in 1851, he recommended one for Bengaluru.

On his advice and guidance, a museum (the original Government Museum), comprising the collections of B L Rice, the then Director of Public Instruction, and of the Mysore Gazetteer fame, was opened in a jail building in Cantonment. In fact, the road on which the collections were placed came to be known as Museum Road. As the exhibits were new and bizarre for the Indians it came to be known as Thamashe Mane (Fun House).

After about 13 years, as the collection had grown considerably, a new and



Government Museum, Bengaluru

exclusive premises for the museum was built in Cubbon Park. The original block of this museum was designed and built by Col. Richard Hieram Sankey, the Chief Engineer of Mysore State. The then Commissioner Lewin Bentham Bowring commissioned a building of great grandeur in 1876 - the Attara Kacheri, the secretariat with eighteen departments.

After about thirteen years of existence in Museum Road, in 1877 the exhibits were shifted to the new building. The original structure was not as big as it is now. During the subsequent decades, additions were made without disturbing the original style or colour. It is one of the oldest museums in India and the second oldest in South India. Known as Mysore Government Museum, in Sydney Road, it was later renamed Karnataka State Government Museum, and was located on Kasturba Road. It is axially in line with the Vidhana Soudha and the High Court buildings.

It is an archaeological museum and has a rare collection of archaeological and geological artifacts including old jewellery, sculptures, coins and ancient inscriptions. The Karnataka State Archaeology Department governs the museum and it falls under the purview of the Directorate of Archaeology and Museums. It can be likened to The Natural History Museum of London.

Though the Government Museum on Kasturba Road was familiar to Bengalurians and an important destination for tourists, there was a need to build an exclusive museum to showcase the rich history, culture and heritage of the city, as it had already earned the sobriquet, 'The Global City'.

One such centre to honour the city's founder Kempegowda I, was first proposed in 2000. But the project did not see much progress in the subsequent years. A serious intent towards the museum started only when the committees for Kempegowda Smaraka Vastu Sangrahalaya mattu Adhyayana Kendra (Kempegowda Memorial Museum and Learning Centre) were formed in 2005. The museum was finally inaugurated on 7 April 2011, by Chief Minister B S Yediyurappa. The Museum was dedicated to the Yelahanka chieftain Kempegowda I who built Bengaluru city.



Erstwhile Government Museum

The Kempegowda Museum is housed in the first floor of Mayo Hall on Mahatma Gandhi Road. Painted in red and white, considered Cantonment colours, Mayo Hall is one of the few surviving fine heritage structures of the city. The upper storey was earlier reserved for public meetings and was free of charge, while the ground floor housed the municipal offices. Until 2010, Bengaluru City Corporation Mayor's meetings were held on the first floor. The adjoining blocks of the building, built in 1904, house a variety of courts and public offices, and were previously called 'station public offices'.

The museum concept was planned and implemented by K N Suryaprakash, Chief Designer, Design Core. Historian and folklorist Sri H K Rajegowda wrote the text that accompany the pictures on display at the museum.

A framed map of 18 Century Bengaluru forms the entire base of the main hall with the four corners of the room having tower-shaped panels to symbolise the four watch towers (fixed boundaries) of the earlier town. The panels in the four corners display information about the

locations of Kempegowda's towers in the present city. The display panels located on the walls in between the towers have information with photographs and illustrations.

An interesting experience of the museum is the floor. A magnified heritage map of 19 Century Bengaluru is spread across the wooden floor and laminated with a glass slab upon which visitors can walk. The map was procured from the Mythic Society and is drawn by the British. Old names of places and buildings of Bengaluru city can be located and viewed. The floor map shows the eastwest zones of the city.

An imposing fiberglass statue of Kempegowda I is placed in the centre of the hall, welcoming visitors with folded hands in the traditional Indian way.

The museum also throws light on the Yelahanka clan that Kempegowda belonged to, the lineage of his family, its successors, and has displays of the rulers of the dynasty, the foundation of Bengaluru town, the commerce, water systems and religious *agraharas* (hamlets) built by the clan.

Pictures of Kempegowda's territories, and forts, temples and water reservoirs built by him are displayed on the wall along with historical facts and inscriptions.

The centre is funded by the Government of Karnataka and the BBMP (Bruhat Bengaluru Mahanagara Palike) is responsible for its upkeep. There have been calls for expansion of the museum. Renowned Kannada writer D Javare

Gowda called for shifting the court from Mayo Hall to expand the museum.

However, there was a proposal to shift the museum to the Bangalore University's Jnana Bharati campus to give it a bigger dimension.

Kempegowda Research Centre on three acres adjacent to the administrative block is also expected to materialize soon.

The museum at Mayo hall is closed since a few months.

Considering the status the city has gained globally, the museum is expected to be built to international standards in size, collection and display. Like the Museum of London, it must become an iconic Museum of Bengaluru.

Madras Sappers Museum

On the lines of The Imperial War Museum, is the Madras Sappers Museum at MEG centre, near Halasuru lake showcasing, the history of the Madras Engineer Group (called the Sappers, established in 1803). The Madras Sappers is the oldest regiment of the corps of engineers of the Indian Army. The museum chronicles their history and achievements and houses armour used by the regiment, medals won, attire worn, and houses a sports gallery. This museum is not open to the general public and a visit requires special permission from the Army. The two war memorials near the museum are not to be missed.

Similar to the Royal Air Force Museum, is the HAL Heritage Centre & Aerospace Museum on Old Airport and Varturu



Vishvesvaraya Industrial Museum

Road in Bengaluru. It is the brain child of Padma shri Dr. C G Krishnadas Nair, the Chairman of HAL from 1997 to 2000 and currently the Chancellor Jain (Deemedto-be University).

The museum was set up to commemorate 60 years of HAL in Bengaluru and was inaugurated on 30 August 2001. The first of its kind in India and one of such rare centers in the world, the museum vividly displays the aviation history of India. It includes Hall-1 and Hall-2 and the vast stretch of aesthetically laid out park with several models of aircrafts placed at regular intervals.

Hall-1 is an extraordinary circular building designed to allow sufficient air and light to various compartments in which a chronological display of pictures tell the scintillating journey of HAL since its inception.

The design of Hall 1 by Bengalurubased architects, Shibanee & Kamal was the winner of a national-level design competition.

Hall-2 gives an insight into the technical aspects of an aircraft. It is a treat to wander among the several airplanes displayed along with their profiles.

Visvesvaraya Museum

The Visvesvaraya Industrial and Technological Museum (VITM) on Kasturba Road is similar to the Science Museum. A constituent unit of National Council of Science Museums (NCSM), Ministry of Culture, Government of India, this museum was established in memory of Bharat Ratna Sir M Visvesvaraya. A modest building with a built up area of 4000 sq. m, was constructed in the serene surroundings of Cubbon Park. Housing various industrial products and engines, it was inaugurated by Pandit Jawaharlal Nehru on 14 July 1962. The first gallery set up at VITM on the theme 'Electricity' was opened to public on 27 July 1965 by the then Union Minister for Information & Broadcasting, Indira Gandhi. Located next to Government Museum, VITM draws a large number of tourists as well as Bengalurians, particularly students.

Besides these, there are museums in NIMHANS, Modern Art Gallery, Gandhi Bhavan, Bengaluru Palace, Tippu Palace, Bible Museum and also private collection centres like that of Regret Iyer's in Tyagaraja Nagar.

A brief account of museums in Bengaluru shows that the city too has a few world class museums. Hence, like London this city too deserves the sobriquet Museum City. Dedicated efforts from the concerned authorities will go a long way in preserving and popularising them.

To be continued...



Suresh Moona

sureshmoona@gmail.com

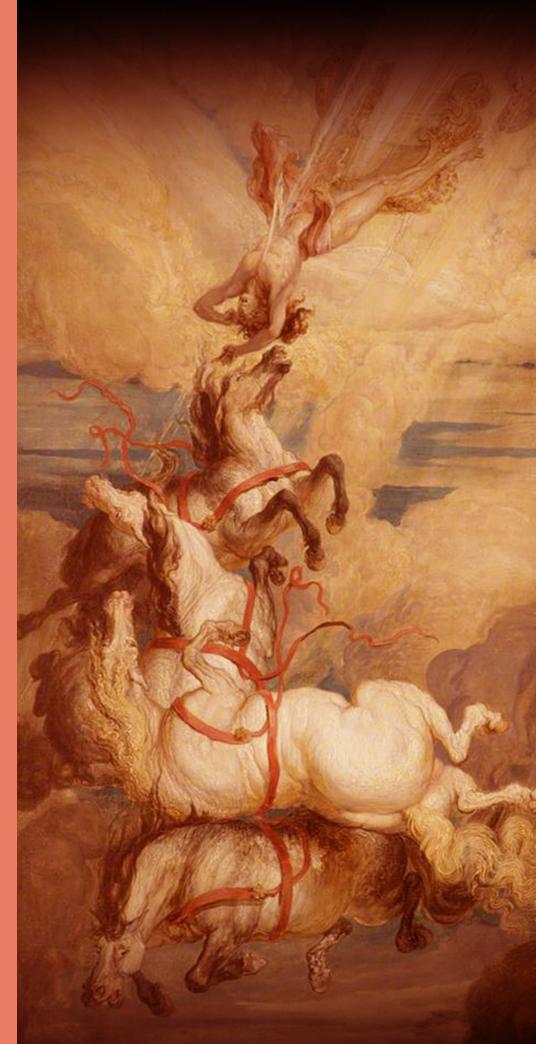
The Fall of Phaeton

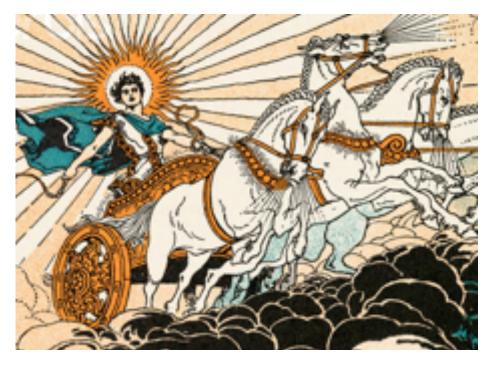
yths have meaning; they don't exist merely for the sheer joy of storytelling or entertainment, though the subsequent retellings may have similar objectives. Myths were early man's means to get messages across to a society, which was in a formative state and needed guidance and direction. These messages could have been social, political or even cultural.

As time went by, myths evolved. From a very basic, to-the-point format, a full-blown myth emerged as bards and tellers developed and improvised it further. What we have today, from all over the world, is that version, which has constantly undergone change and been overlain with ornamentation in terms of words and meanings, both apparent and latent.

An interesting example is the Greek myth, The Fall of Phaeton, the lessons of which are both varied and valid even today, or should I say, more today, than ever!

Phaeton was the son of the Greek Sun God Helios, and Clymene, a mortal from Ethiopia. Since Helios was vested with the important responsibility of driving the sun from one end of the world across to the other every day in his chariot, Phaeton lived with his mother on earth; also because, mortals lived on earth anyway.





Once, Phaeton disclosed his father's identity to his friend. He refused to believe that Phaeton's father was Helios. Phaeton was suddenly beset with doubt. His own mother's words couldn't convince him. He decided to go to the heavens and ask Helios himself. Soon he found himself in the presence of the mighty Helios, bright and radiant, living in a palace with lofty pillars of gold and bronze, all shining like burning fire.

Phaeton asked Helios, if he was indeed his father and Helios immediately assured him that it was true. Helios went a step further by announcing to all in his palace the truth about Phaeton. Noticing that his son was not quite assured, Helios told Phaeton that he was willing do anything to to convince him. To that effect, and as an indulgent father would often do, Helios told Phaeton that he would grant him a wish.

Phaeton asked to drive his father's

chariot for a day. Helios realised that he had erred and tried to convince Phaeton out of his demand. Helios explained to him that the chariot was no ordinary chariot as it was fiery hot and the horses breathed fire, so much so that even Zeus, the king of all gods, could not control the chariot. But Phaeton would not relent, and having made a commitment, Helios could not go back on his word, even though he realised his folly of hasty commitment. So with a heavy heart, he allowed him to take the chariot out the next day.

The chariot was truly majestic. Its axle and pole were made of gold and so were the wheels, with silver spokes. The yoke was set with jewels and the horses, fed on ambrosia were breathing fire, ready to charge. Helios applied an ointment on Phaeton to protect him from the extreme heat. He advised his son to tread the middle path - neither drive too low towards the earth nor too high

towards the sky. As night had begun to retreat from the Western end and dawn was breaking in, it was time for the sun to appear on the horizon. Helios bade his son goodbye, hoping that everything would be all right.

Phaeton took hold of the reins and charged. But neither was this an ordinary chariot, nor was he used to steering heavenly horses with enormous power. Soon the horses were out of control. They charged high towards the skies, drying up all the clouds. Afraid, he plunged the chariot down towards the seas, and only ended up drying the waters. Poseidon, the Lord of the Seas, emerged to the surface to warn the charioteer, but the uncontrolled chariot charged towards him forcing him to plunge deep into the sea. The heat of the chariot singed and killed sea-creatures, deeply upsetting the sea god.

It burnt forests and melted ice-capped mountains. It is said that the chariot rode so close to modern-day Ethiopia (so that his disbelieving friend would get a closer look of him on the chariot), that it drew the blood of the people to the surface of the body, causing their skin to turn dark. It also rode so close to modern-day Libya that the land turned into a desert, and river Nile in fear hid its head in the earth and remains hidden till date!

Earth was up in flames, the waters had dried up and the sky was scorched. The gods called for divine intervention; they appealed to Zeus to stop the menace. Zeus hurled his thunderbolt and brought down the chariot and the charioteer to the ground. Soon all was well, except

that Helios lost his son. Helios drowned in remorse, but he realised his folly too.

Contemporary Relevance

The beauty of myths is that they transcend time and space. They are relevant to all times. They can be interpreted to suit the time and context.

The myth leaves us with a very important lesson. Helios had committed a blunder in making a promise, without thinking about its ramifications. This is so common with indulgent parents who give in to their children's demands without realising the implications. History is replete with tragic and unfortunate incidents.

Helios should not have allowed his responsibility to become a juvenile's sport. Driving the chariot across the sky was an important responsibility and Phaeton was neither experienced nor capable of handling it. He was too young to even understand the gravity of his father's responsibility, which for him was a matter of adventure, or misadventure, as it turned out to be.

I find this myth very contemporary, when I read about underage children driving their parents' vehicles irresponsibly leaving a trail of tragedy behind them. Myths of this nature highlight the repercussions of granting a child's wish too hastily without forethought. It also highlights that one shouldn't abdicate ones responsibility in favour of parental affection.

To quote Joseph Campbell, the well-known mythologist, "This tale of indulgent parenthood illustrates the





antique idea that when the roles of life are assumed by the improperly initiated, chaos supervenes."

Besides this obvious interpretation. there is another very pertinent message embedded in the myth. The story reflects the modern climate crisis. It highlights the fact that man is capable of destroying what he has not created. Nature is bountiful and has given us rivers, mountains, valleys and the beautiful sights of sunrises and sunsets, along with a promise of cyclic seasons. But in our greed, we are playing with nature. Man in his delusion, believes, much like Phaeton, that he can control nature, and in his attempt, has only caused catastrophe - large scale natural disasters, many of which we have seen in the last couple of years itself.

In another version of the myth, earth looks up at Zeus (much like Poseidon) and cries out through the fires set ablaze by Phaeton that her hair is singed and ashes have coated her eyes and face. Is that the treatment she deserves? For her unbridled bounty - the crops she yields, the wounds of the plough that she endures, allowing cattle to feast on her greenery and the grains that she offers man to consume; is that how she is repaid, with burns and ashes and smoke to endure?

Imagine the same Earth questioning us, mankind of today, for all the torture that we unleash on her in the name of development and urbanisation, leading to pollution and contamination of natural resources. Technology and its results are choking the environment. The latest unseasonal rains, deadly floods, forestfires, unhealthy air, acid rains, et al, are a result of man testing earth's ability to withstand exploitation.

The climate crisis is looming large. Leaders and influencers might be oblivious to it, or choose to be, but we cannot. Our children deserve a better earth, the one that our forefathers left for us. We are no gods, but we need to stop the Phaetons of the modern day from destroying our waters, land and air. It's time, rather late, but nonetheless, time to intervene, and take steps towards this mindless unleashing of man-made crisis.

This Greek myth is a stark reminder of the mayhem man can unleash on himself and still not accept his folly.



Utkarsh Patel

A mythologist and author of several works in the genre of mythological-fiction. A lecturer World Mythology from the same a regular speaker on a variety of subjects related to mythology and other topics.

Blacksmiths in the Agrarian Sphere

Revitalising Traditional Livelihoods - Part 2

hrough the length and breadth of India, the rural landscape reveals an abundance of blacksmiths. In most undeveloped agrarian economies blacksmiths are relevant since rural farmers are still dependent on them for tools used on the farm, and for their bullock carts. Blacksmiths are often located in the heart of the village or town, as those spaces are most accessible, and they also serve as a social space where farmers and farm-hands chat over a cup of tea or *beedi*.

In South India, five groups of craftspeople are said to be disciples of Vishwakarma, considered to be the architect and engineer of the ancient city of Dwaraka. In mythology, he is also credited with the design and execution of weaponry for the gods. Sculptors, carpenters, blacksmiths, coppersmiths and goldsmiths were included in this group. The ancestral forebears of these subgroups were Manu, Maya, Tvastar, Shilpi and Visvajna. This artisanal group is also known as the panchal group in North India referring to the 'panch' or five groups of creative and skilled persons.





Villagers Exchanging Notes at the Blacksmiths

In rural areas, the local blacksmith is traditionally attached to several families. Near Madurai (in Tamil Nadu), we met Velu, a village blacksmith, who was linked to about twenty farm households on a regular basis. Velu's valuable knowledge of exactly the kind of implements needed, as well as their specifications, helps him develop a symbiotic bond within the community, ensuring him a regular source of income, and important social capital.

Velu recalls his long apprenticeship under his father and uncle as a child that led to his success as a skilled craftsperson. This long-standing coexistence of farm and smithy, however, will very likely be lost on Velu's college-going son, who might choose to pursue a more lucrative field of work due to pressures of the current economy.

In Rajasthan, the Lohars or blacksmiths arrive at the beginning of the agricultural

season to repair, sell and sometimes customise agricultural tools and implements. In the 1960s, the government of Rajasthan built houses for the Lohars in an attempt to rehabilitate them. However, the plan (though wellintentioned) failed, because many were forced to migrate or operate in a radius of forty to fifty kilometres from their hometowns to find work, as waiting for farmers to approach them proved unprofitable.

On the outskirts of Jaipur, blacksmiths repair large bullock-cart wheels and tilling equipment which proves very helpful to the farmers, as door-to-door service helps them avoid an expensive trip to and from the blacksmith's, especially in terms of hauling equipment.

Blacksmiths are a staple sight at village fairs where people visit in large numbers, especially at cattle fairs where oxen are fixed with iron shoes. An interesting sidenote: the fixing of cattle shoes is done by blacksmiths in



Blacksmith in Tamil Nadu

most parts of the world, where they are known as farriers or those dealing with iron (ferrous) products.

Mythology

In the blacksmith's workshop, the traditional leather bellows pump large volumes of air into the furnace. The power of the bellows has been likened to the breath of a living being and is regarded as a manifestation of goddess *Kali*, representing *Shakti*. That is why even today, people perform *puja* to these implements during the Dussehra festival, in thanksgiving for the livelihood they provide.

According to popular blacksmith lore in Karnataka, *Shiva* placed a red-hot piece of iron on his right knee which was his anvil (adigallu) representing himself. Then he used his left hand as the tongs (ikkala), representing Goddess Kali, and hammered the iron with his right hand, representing the hammer (sutthige). Shiva and Shakti are both said to be embodied in this activity, making it not only divine, but also powerful in metaphor.

In Karnataka, blacksmiths are difficult to find these days, as technology has absorbed much of the iron-working industry. Most implements are manufactured on large scale and distributed country-wide. As such, the blacksmiths now have a much smaller scope, mostly limited to repairs, servicing and sometimes to customise products which still need the precise skill set that can only be learnt by working with metal over a period of time. Such skills include having a deep understanding of the quality of the



Old workshop in Hubli

metal, the heating capacities of various grades of metal, quenching procedures, and other intricacies. With large-scale manufacturing, these skills are receding and only a few experienced blacksmiths survive.

Case Study Hubli-Dharwad Area

Our search led us to a few acharis working in the Hubli-Dharwad area. The sound of the bellows and the steady rhythmic metallic hammering directed us to where these blacksmiths worked as we found our way through the town. Upon walking into a large open workshed, we found three sets of bellows, with one set currently in use. These bellows were beautifully crafted with colourful paint - even the owner was not sure how old they were. The handcrafted leather of the bellows was in excellent condition despite the constant exposure to high temperatures. By his guess, the bellows were about a hundred years old, as they seemed to have been inherited by his grandfather. They are true relics, older

than his career of over twenty years running the enterprise.

Operating the bellows is hard work. They are pumped by a person sitting at one end, making a deep whooshing sound and pushing air from the pipe into the pit of fire. Sometimes the client himself does this job while talking cheerfully to the craftsperson in the absence of an assistant. The blacksmith heats the metal to be repaired with a pair of tongs, and at the appropriate time puts it on the anvil to beat it into shape. The metal is then doused with water to check if it has taken the right shape. This process is repeated until the desired shape is achieved and finally, the hot metal is dipped into a water bath where it quickly solidifies into the right shape for use.

Blacksmithy in India

India has been known for its deep knowledge of metallurgy and excellence in crafting metal using different techniques. The Iron Pillar in Delhi was supposed to have been built between 375-415 CE and was made with rust-proof wrought iron. The Sanskrit inscription on the pillar eulogises a king named Chandra without specifying the dynasty. All other available data however, seems to point to King Chandragupta II.

Known as *ukku* in Kannada, Wootz steel was a speciality of ancient Indian metallurgists, especially in Karnataka and Tamil Nadu. Research reveals that it is an alloy with a structure of carbon nanotubes achieved through multiple episodes of heating and hammering on a surface of plant matter or bamboo at high temperatures. The high carbon content



Blacksmith with Old Bellow

gives this alloy its elasticity, malleability and characteristic hardness, which made it much sought after, especially for crafting swords and blades. It is also recognisable by the watery reflections on its surface.

With large quantities of weapons produced with this steel in Damascus, around 440 AD, the metal subsequently came to be popularly known as Damascus steel. Though there has been substantial research on the subject, metallurgists have not yet perfected the art of recreating this steel, posing many questions as to how ancient blacksmiths understood the diverse properties of iron.

In the states of West Bengal, Odisha and Telangana, blacksmiths are known for their artful Dokra work. This work consisted of metal figures of tribals



Iron pillar and Inscription on Iron Pillar

made out of thin tubes, created with imagination and precision, using clay and wax moulding techniques to make brass artefacts which are meticulously crafted. The Dokra Damar tribes from West Bengal are credited with this original tradition.

The conclusion of this investigation was bittersweet, owing to the dual realities faced by the craft. Despite many traditional blacksmiths successfully



Dokra Work

carrying on their occupations in the rural context, the overwhelming sense is that these skills will not be carried forward by the next generation. Industrially produced tools with more precision and cheaper retail prices also drive the community of blacksmiths and those requiring their services into smaller and smaller spaces. We can only hope that the collective skills of the blacksmiths will be recognised and preserved, beginning a new chapter for these ancient artisans. 🔼



Asha Malatkar

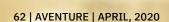
teacher, and in the corporate sector in Human Resources. Bengaluru providing support to anganwadis and schools. She also runs a skill development programme for women and other target groups.

Pictures: Vijaya Gowri

Leena Kejriwal Fighting Human Sex Trafficking

Leena Kejriwal received the prestigious 'World Summit Award' on Women's Day, 2020, for her gaming app 'Missing - Game for A Cause'. The game, a unique combination of art and technology, has been successful in raising awareness about sex trafficking. The game puts the player in the seat of a decision-maker so the player can experience the ordeal of a 'missing girl' who is forced into the world of prostitution. The player, who assumes the role of a 'missing girl', has to assess risks, make choices and find his/her way to freedom.

The app is ideal for both the sexes, since trafficking is not limited only to girls. Boys are as much victims of trafficking as are girls.



orn and brought up in a humble Marwari family in Kolkata, Leena did not experience differential treatment from her parents vis-a-vis her male siblings. She completed collegiate education and took up courses in photography and advertising. Thereafter, due to certain exigencies she could not pursue education. "I got married at the age of 25 years. I had both my children in the next three years. Though my children have always been a central part of my life, I realised I had to find my own thing. I picked up my camera again," Leena reminisces.

Wandering the lanes of Kolkata with her camera hoping to capture the essence of the city, she ventured into Sonagachi - Asia's largest red-light district. "One peek into the red light area, and I instantly connected to the extreme vulnerability of the women working there. I was deeply moved by the stories I heard from these women about their experiences," reflects Leena.

Leena remained preoccupied with the plight of the young girls and women she had met in Sonagachi. It was at this point that Leena's project 'Missing' began to take shape. She leveraged her artistic abilities, and her project 'Missing' emerged at India Art Fair, 2014 - a large life size black silhouette of a missing girl that transcended cultural and language barriers. It was very well received at the fair, and marked Leena's journey into the anti-trafficking awareness movement. "I received great responses and openings at art fairs. A lot of people took interest in my work but I couldn't find sponsors. I didn't want my art to remain within

the confines of galleries. I wanted the masses to see it, engage with it and respond. Awareness is the first step toward prevention. My motto has been, why wait for a girl to get trafficked to save her," says Leena.

Human trafficking is one of the most neglected crimes in India. According to the latest reports from National Crime Records Bureau (NCRB), a total of 15,379 people were trafficked in 2016, of which 10,150 were women. The data further reveals that three in five people trafficked were children below the age of 18 years. State-wise, West Bengal reported the most number of child trafficking cases, followed by Rajasthan and Uttar Pradesh. Explaining the high

rates of trafficking, Leena says it is demand-driven. "My friends working in NGOs fighting against human trafficking say that there is high demand for women and children for labour and sex. As long as there is demand, tackling the problem is an onerous task. It is an extremely lucrative business. An abnormal act has been normalised."

Taking matters into her own hands, she started researching the subject. She chanced upon an animation game which was not merely built for entertainment but served awareness about social issues. She hit upon an idea instantly. "It was the perfect way to reach the masses. I wanted the app/game to be engaging, to let players feel the



Conversation



trauma of the victim. I didn't want it to be preachy," Leena adds. She set up a crowd-funding page to mobilise funds for the app, convinced her friend Satyajit to develop the game, and she soon launched it. The app won NASSCOM's 'Indie Game of The Year Award' in 2016 and has so far achieved over half a million organic downloads worldwide. It has been translated into 12 languages.

Leena Kejriwal's work keeps her on her toes. From one city to another, she is constantly on the move, raising awareness at the grass-root level in both urban and rural areas. Along with her team, she has been working in the Sundarbans and rural districts of West Bengal, educating people about this issue and the legal options available to them.

"The problem is that the legal process is so slow that survivors are left traumatised in the process," she says. At present, The Trafficking of Persons (Prevention, Protection, and Rehabilitation) Bill, passed by the Lok Sabha in 2018, is awaiting Cabinet

approval. Under the bill, anti-trafficking units will be established at the district, state and national levels to rescue victims.

Human trafficking is thriving primarily because of the patriarchal nature of our society where women are always objectified. Leena is conducting awareness programmes at the school level, with the focus of changing perception and attitude towards women. "These programmes are aimed at shaping the minds of young boys and girls. The objective of the programme is to change perception, attitude and behaviour of

male students so they learn to respect the feminine body and develop an empathetic attitude towards girls and women. Other aspects include teaching students to assess risks while interacting with strangers online and offline, and measures to protect themselves when in danger. "I believe that if every 12 year-old undergoes one short course

The only way we can stop trafficking is by ending the demand for boys and girls. To do so, raising awareness is a necessity. Because awareness is equal to

-66-

-99

prevention.







on awareness about sex-trafficking and measures for anti-trafficking, it will go a long way in protecting the next generation," says Leena. According to a study by NGO World Vision India, 59 per cent adolescents had no idea about how to protect themselves from trafficking and 72 per cent are unaware of the existence of dedicated help lines and other such services.

Leena believes awareness has to be 360 degrees. She emphasises the need for systematic parental programmes. "It is very essential to question what kind of behaviours are being passed down, encouraged and discouraged. How are parents leading their children? We need to detach from archaic behavioural patterns that objectify and subjugate women," Leena adds.

While women have primarily been victims of trafficking, over the years, trafficking of boys is also increasing. This 'invisible population' (the 'invisible' tag because in all discourses related to trafficking, boys are overlooked) are also trafficked for labour and begging. The US State Department report states that boys from Bihar and Uttar Pradesh are trafficked for labour in embroidery factories in Nepal. Systematic factors like lack of financial support from government or job opportunities are the driving factors behind it.

"The only way we can stop trafficking is by ending the demand for boys and girls. To do so, raising awareness is a necessity. Because awareness is equal to prevention," reiterates Leena. She is also in the process of releasing part two of the 'Missing' game. It revolves around

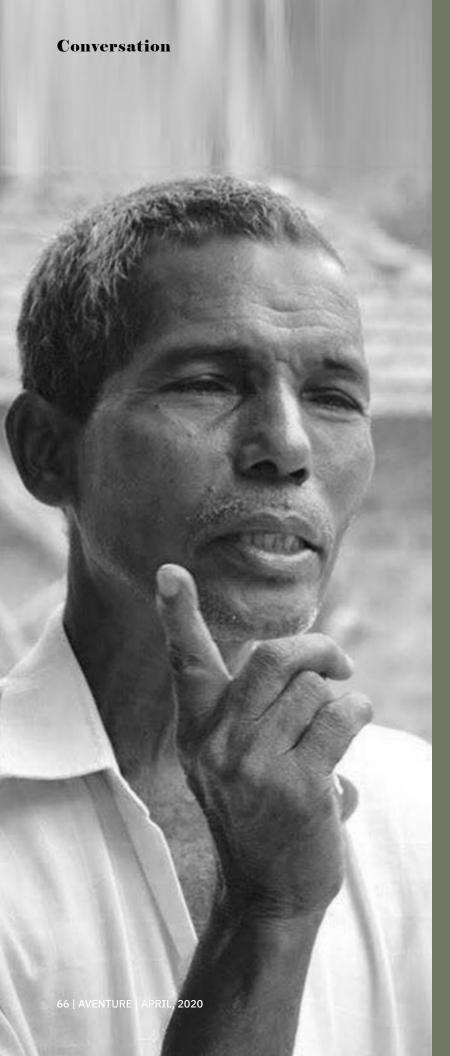


the story of a girl who is a survivor of trafficking. M



Jahanavi J

A mental health advocate and writer. She is passionate about traveling, understanding experiences of resistance and exploring ways to live life holistically.



From Selling Fruits to Running a School

The Inspiring Tale of Padma Shri Harekala Hajabba



arekala Hajabba's life may have remained just an ordinary struggle of eking out a living from a humble business of selling fruits; but his insatiable thirst to bring education to the doors of his village folk thrust him into instant fame.

Today, he is a recognisable face in the country, having made headlines upon being conferred the Padma Shri, India's fourth-highest civilian award for his inspirational work in the community.

Thrilled, but not ready to rest on his laurels, Hajabba is hoping that the recognition, the biggest accolade in his life will spur others to achieve bigger goals like establishing a pre-university college in the same village to complement the school already in existence.

Like him, his village, Newpadapu, Harekala in Mangalore was unknown to the world, but people now throng this locale to meet and greet the fruit seller and the 'chief architect' of the only school in this village, which had remained a distant dream for several years.

In a *tete-a-tete* with Hajabba, *Greeshma Sukumaran* discovers that the Padma Shri awardee has bigger plans, hopes and lots more up his sleeves.

Yet the 64-year-old Hajabba, the cynosure of all eyes, after receiving one of the highest civilian awards in the country, remains untouched. His phone, an old-Nokia handset never stops beeping. Calls and messages from people keep pouring in, many of whom he has never known or met, all just to congratulate him and recognise his achievements.

The lanky man patiently answers every call in a raspy voice and only looks up to the heavens and thanks the Almighty for all the blessings he continues to shower upon him. "It is only him above, who thought of using me in this way," the dutiful Hajabba begins. Though he is a man on the verge of achieving his mission, he had to cross several hardships to finally realise his dream of starting a school for the kids in his village. The school came into existence in 2000.

His entire neighbourhood as well as his own family mocked him for nursing a dream which they thought was way beyond his grasp. "It is a dream that will never see the light of day," they whispered behind his back.

Hajabba says that the spur to start a school came from an unlikely source. A foreign couple came to buy the oranges he was selling. Although he wanted to talk to them and had several questions to ask, he couldn't utter a word of English and obviously they understood not a word of his native language. "I could not stand the embarrassment and from that day I resolved that the children of my village would never have to go through my experience of not being able to have



Hajabba with His Accolades and Awards

a conversation with someone from outside their village."

A distraught Hajabba then took it upon himself the arduous task of pitching for a school in Newpadapu, Harekala village but had a rough time in his quest. Initially he received scanty support from people of his own village and from others he approached for funding. He also faced a lot of ridicule and at one point he too thought his dream would remain just that.

"It was difficult to convince the village folk to donate money to start a school," he recollects. "Just like me, many people in the village had no formal education and the biggest dream they

Just like me, many people in the village had no formal education and the biggest dream they ever carried was that someday they would find work rolling beedies to eke out a living.

ever carried was that someday they would find work rolling beedies to eke out a living." Rolling beedies, a locally made tobacco is a common occupation in this nondescript village located 25 km away from Mangalore city. "Even my wife laughed at me when I told her what was on my mind," Hajabba simpers.

Conversation



significance was slowly but steadily unfolding in their midst. "This increased their confidence in me to lend money for running the school," he says. With help from well-wishers and his own savings, Hajabba moved his school to a newly constructed building and the rest, as the cliché goes, is history!

With funds coming from the government and the general public, the man behind the first school in Newpadapu, Harekala village soon set up a high school as well.

"Now, I am trying to get approval for a pre-university college (PUC) so kids

. Hajabba Selling His Ware in Mangaluru

From his earning in his village, he could barely make ends meet. But luckily for Hajabba, he had also nurtured a dream of doing business outside the village. Selling fruits in Mangaluru city proved more lucrative.

With this trump card in hand, Hajabba braved the storm by leading a frugal life and began saving every penny that came his way, while keeping sight of his insatiable ambition to establish a school in his village. The perseverance and determination finally paid off in 1999 when he started conducting classes at a madrassa building in the locality.

"We started with an enrollment of 28 students," recollects Hajabba with a gleam in his eyes. Soon, the enrollment began to show an upward trend forcing Hajabba to find a bigger premises to accommodate enthusiastic learners. Now, it began to dawn on the local populace that something of great



Hajabba Interacting with His Students

don't have to traverse long distances to continue with learning after completing their 10th class," he explains. "I wish the laurels and accolades that have come my way translate into more funds for these schools," he reflects.

Even with life's uncanny penchant for throwing up surprises, the award and recognition came like a jolt from the blues for Hajabba. "I was standing in a queue at a ration shop when my phone beeped," take it up. "I could not bring myself to believe what I had just seen and took help from friends in the media to decipher the message on the Padma Shri award that came from the office of India's Prime Minister. Shri Narendra Modi."

One of the tweets that announced to the world that Hajabba had been honoured with the Padma Shri award read, 'Harekala Hajabba was in a line at a ration shop when authorities informed him that he got Padma Shri. This fruit seller from Dakshina Kannada is educating poor children in his village of Newpadapu from a decade in a mosque. Doing all the efforts, including spending his savings.'

Hajabba who lives with his wife Maimoona and three children has not forsaken the trade that has brought him this far and still sets out of his village to sell fruits in Mangaluru. He relishes his business of selling fruits and it's from this that he saves a little money to achieve something meaningful in life. "So where does the question of leaving this trade arise?" he poses in Kannada, laced with the coastal Tulu accent.



Hajabba Shows the Padma Shri Award

Now referred to as 'Akshara Santa', loosely translated, 'Saint of Letters or Saint of Knowledge' by his students and village folk, Hajabba retains his poise and humility, despite all the attention.

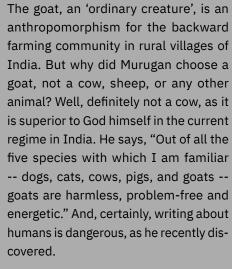
"At one point in time, my wife even feared that my dream would derail our lives and deny my children their needs, but that changed," Hajabba signs off with a smile as he reaffirms his commitment to establishing a pre-university college.

And who knows, with time, the school could spin off into a full-fledged university, which actually is on his to-dolist. A noble agenda indeed!

Image courtesy: Google Images

The Story of a Goat

s I picked up Perumal Murugan's *The Story of A Goat*, I couldn't help but be startled by the opening lines: "Once, in a village, there was a goat. No one knew where she was born. The birth of an ordinary creature never leaves a trace, does it?" I wondered if he is talking about the goat. Or about the general populace, including me, who are only valued if they increase the value of Gross Domestic Product.



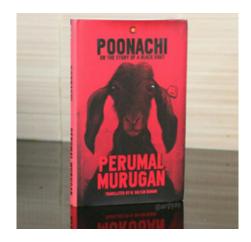
Last time around when he wrote about humans and their socio-cultural dynamics, he was forced to withdraw his books and flee home. In 2015, Murugan's book One Part Woman was met with protests from a certain section of society which claimed the book insulted their deity Ardhanarishvara, and the women of their caste. The story revolves around an infertile couple willing to do anything to bear a child to please their family, and society in general. Their relationship is tested on the last day of the Chariot Festival when marriage rules are relaxed and consensual sex with partners other than their spouse is permitted. Amid protests, copies of his books were burnt by Hindu groups, leading Murugan to declare his death as a writer, 'literally suicide', as it were.

His comeback book, Poonachi Or *The Story of A Black Goat*, translated into English by N. Kalyan Raman is a political satire on the plight of the economically weak and marginalised sections of the country, which remain malnourished all their lives, powerless against the all-powerful establishment, and await only a bleak, uncertain future. Yet the crux of the story is the final victory of the human spirit that survives despite being excruciatingly tested time and again.

Written in deceptively simple language and style, the story revolves around a goat and its caretakers, an old couple who remain unnamed till the end; a strategy to represent the multitudes of nameless, faceless people living on the fringes of our society. Murugan depicts the quotidian, monotonous struggles of the couple and the goat for sheer survival in great detail, and traces the changing dynamics between the goat and the caretakers over time. Though it appears to be an easy read, the story is layered with a critique of the marginalisation and oppression of the subaltern populace and patriarchal dehumanisation of women narrated through the life of a female goat.

Poonachi, thus christened by the old woman, is an atypical and famished black goat, gifted to the couple by Bakasuran, a mystical figure. Despite their poverty, they adopt the goat as a blessing from God, and its arrival brings a brief interlude of pleasant chit chat between the couple, in their otherwise lonely and indifferent existence. The old woman devotes herself to caring for and nurturing Poonachi. The goat shares the

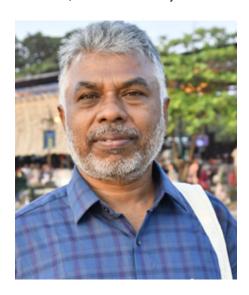




couple's rough start since birth, given their economic status. Since the couple has no money to buy milk and since poor Poonachi is also refused milk by other milch goats owned by the couple, she survives only on oil cakes and rice water. One odd day, if she gets lucky, a milch goat suckles her. Like any poor wretched girl, Poonachi is surrounded by predators -- she is bullied by other kids (baby goats) and an eagle tries to prey on her -- ominous only of greater perils awaiting her into adulthood. She grows up a famished goat with a bloated belly, a feature 'unique' to her. This parallel between Poonachi and a woman's life continues all through the narrative.

Nevertheless, she survives, thanks to the old woman's determination to keep her alive, for whom Poonachi is no more just an orphan, but a child and companion, compensating for an indifferent husband, and a married daughter living in a far away village. However, for Poonachi, this endearment is not to last for long. As she matures into womanhood, her relationship with the couple becomes transactional; she is now bred not for love but for the off springs she can bear and her milk that can be sold for money. Poonachi is time and again traumatically separated from her mates and from her kids. The old woman, who nurtured her all along, is now her chief abuser. Just as a woman's value is measured by the dowry she can bring, her childbearing capacity and efficiency of running a household, Poonachi becomes a means of livelihood for the couple. She, just like a woman, treated not as a thinking-feeling being, but as a mere functional being, who ought to fulfill the roles forced upon her by the norms of a patriarchal society.

Poonachi's life is filled with the heartache of unrequited love, sometimes of unwilling suitors and sometimes of forced separation; shame and violation of her body, from being raped and assaulted. She is grief-stricken each time her kids are deprived of milk, or are sold. In the midst of all this sorrow, Murugan infuses moments of love and solace -- the erotic love with her mates, the joy of seeing her kids playing, scented memories of her long-lost love and her one-time visit to the forest, which for the only time in her



Author, Perumal Murugan

life, made her feel at home.

Murugan paints a vivid scene of Poonachi being forced to mate with an old goat, leaving her revolted by her own body and mind. The deep-rooted patriarchal structure is also illustrated when during a famine, the old woman and Poonachi take smaller portions of the meal to give the old man bigger portions.

Murugan, like in his other books, has been successful in bringing out the plight of the neglected in vivid detail. The story is, over and above all the pain and trauma, a testimony of the grit and tenacity of the human being to survive. While it may appear like a narrative of banal quotidian details, it is indeed a portrayal of the existential angst of gruelling struggle to merely survive.



Jahanavi J

A mental health advocate and writer. She is passionate about traveling, understanding experiences of resistance and exploring ways to live life holistically.

Ucchishta Sethuram Imprint Defeats Powerful Intent



atching an S N Sethuram (SNS) play is an exercise in familiarity. So going into Ucchishta at Ranga Shankara (his third production that I'm watching), I had a fair idea of what to expect. From the moment the lights dimmed, I sat in darkness waiting for the common reactions that his plays elicit, a knowing chuckle, short bursts of applause, collective gasps, scattered tch-tchs, teary eyes and a standing ovation at the end; everything you would expect from his staple audience, a few of whom return to his plays over and over again. And they came, all those reactions, as they do unfailingly each time.

For his steady fan base, mostly comprising the older middle-class audience, Sethuram's verbose plays full of quotable punchlines, probing conversations and lengthy, philosophical monologues serve to reinforce their deeply-held emotions and opinions. As the characters on stage open up, with their flaws, vices, insecurities, conflicts and tragedies laid bare for everyone to see, the audience's beliefs (and biases) find resonance. In his new play *Ucchishta*, the Kannada writer, director, playwright and actor takes it a notch



higher. 'Ucchishta' means leftovers. Sethuram's play is a commentary on the immoral excesses of the previous generations that have left behind an unsavoury aftertaste. The old are long gone, but the burden of their actions continues to haunt the lives of the young. So, in a sense, the 'leftovers' here is not just the unethical way of life but also the children, borne of such excesses, who are inheritors of this legacy. How the young make sense of and navigate the moral framework that has been handed down to them, whether they reclaim the old path or forge new ones forms the

crux of the play.

Ucchishta revolves around a famous retired professor with a family, an older woman who has been in a relationship with him for about 20 years, her 24-year-old daughter from her first marriage and the daughter's boyfriend. The daughter wants to get married but her boyfriend is hesitant, suggesting instead a live-in relationship. The problem with marriage, we learn, is his mother who does not approve of the girl's mother's illicit relationship with the professor. Can her mother get out of it? But how does one simply walk away from a person who has shaped their identity?

Years ago, she had run away from an abusive husband, only to land at the feet of the professor – a man who is responsible for all the name and fame she enjoys today (undeserving, we are told, as the woman is not the brightest mind in academia). The mother is afraid to leave, for all that is at stake – career, reputation, honour, social status,



Review | Theatre

possible selection as the vice-chancellor of a university, even. But the daughter is firm that she does not want to repeat the mistakes of her mother and will not get into a relationship that isn't lawfully accepted by the society.

The professor, meanwhile, is an old man in need of care that he can't expect from his own family. So he needs the woman to be a caregiver, but more importantly he wants her to be a custodian of his legacy who will ensure that his literary works outlive him. As the play progresses, we see him try to coax, manipulate, blackmail and eventually threaten the mother and the daughter of dire consequences if they were to part ways with him.

Most of these details are revealed through

individual character monologues, which are typical of all Sethuram plays. Also typical are recurring themes like illicit relationships, exploitation of women, rape, sexual abuse, arrogance and delusions of men in power and their ability to justify all their wrongdoings. All of this is further subsumed under an unmistakable streak of anti-intellectualism, a case against those "rebels without a cause".

Sethuram as the ageing, remorseless, entitled professor captivates you in *Ucchishta* with his easy charm and an unforgiving barrage of words. Samanvitha as the mother is perhaps the weakest link, missing the surefootedness and conviction that the other two actors carry in their body language and dialogue delivery. The show-stealer is Varshini





as the daughter. Her dancer's grace and piercing gaze exude confidence and strength as she moves across the stage. She stands in contrast to Deepa Bhaskar who has played the younger female characters in SNS' *Gati and Ateeta*. Where Deepa's onstage persona is assertive but soft, Varshini's is fierce and feisty. But the empathy comes nevertheless for they both embody the pain of their characters.

It is the presence of such strong female protagonists in his imaginary world that has earned SNS a huge female fan following who regard him as a champion of women's rights. His plays are known for being a moving appeal to women who have been abused and a stinging indictment of the abuser. They try to give a voice to the struggles of women and hold a mirror to the transgressions



of men, inviting them both to look into themselves and identify with his characters. But in dealing with the woman's right to choose, the play still presents alternatives steeped in patriarchal cultures. That the daughter wishes to get married only for the 'respectable label of a wife' instead of imagining a future where she is not tied down by a man, a freedom that her own mother has not enjoyed, seems



a bit ridiculous. Though she wishes to sever herself from the experiences of her mother, she ends up appropriating a self-narrative whose template is deeply patriarchal, thereby surrendering her identity and agency, yet again, to a man. Could a woman's solution, perhaps, be different? One can only wonder.

Looming large over all this is the shadow of SNS himself. More often than not, a majority of the audience only wants to engage with his unique style of storytelling, one that tells more than it shows and that offers catharsis to the women and validation to the men. And the culprit here is over-indulgence.

Sethuram's broader social messaging - that these men must be held accountable and made to pay for their sins – is overshadowed by the fact that the unsavoury anti-hero is written, directed and performed by him. His off-stage persona, as an artist who is sensitive to a woman's plight, engulfs the character and somewhat dulls its evil gleam for the female audience. Meanwhile, one isn't sure how much of the irony is reaching the male members -they seem to secretly relate to the actions of this obnoxious character but one can't say if they are also responding to his repentance (when and if it comes).

This surface level engagement is encouraged by the minimal set and light design. In all his plays, the stage is divided into three fixed sections, the main characters almost never exit the stage and the scene changes are very subtle. This minimal disturbance keeps your focus glued to the constant volley of words.

As a playwright, SNS is relentless – the same lines are repeated multiple times in the play, and similar thoughts find an echo in his other plays. As a director, he is meticulous - his distinctive style of speech is followed to a fault by all his actors. Its novelty is exciting until it begins to seem monotonous as every character starts to sound the same. But this 'Brand Sethuram' is what people like and it is stamped all over *Ucchishta*.

So the question is, how different can Ucchishta (or Gati or Ateeta) be without SNS' face? Will it then be possible for us to feel towards his character the contempt that it actually deserves? The only way to know is for the creator to dissociate himself from the character and that is something for the team to ponder over. Personally, though, I would love to see SNS, the actor (and maybe the director), take a backseat while SNS, the playwright, weaves his magic. IN



Nalme Nachiyar Freelance journalist and an aspiring Kathak dancer. She was formerly a sub-editor with Deccan Herald.

The Language of Cinema

A Few Shots from Bengaluru International Film Festival, 2020



umankind has always sought to acquaint with the unknown. The enigma of something new and still alien. We covet what we have not yet grasped, shadowing it until its comprehension has revealed itself to us. And we have triumphed with a remarkable acuteness because we fashioned the perfect gateway-language. Art is the language of imagination and nowhere else is it more apparent than in the art of film. We crafted the first motion pictures in the vicinity of the commencement of the 20th century. Soon, the sway of cinema was elevated when sound was integrated into the picture and lo and behold! Actors embodying the art form at its most potent-via language.

The average person cannot hope to master the entirety of the languages now spoken across the globe. Many people can only claim the comprehension of their mother tongue and merely a smattering of a language or two. A major consequence is the glaring lack of foreign language films in our repositories. Film festivals continue to be a prominent source of providing a plethora of films that span dozens of languages from countries across the world that would otherwise continue to remain veiled from our eyes. Legendary Italian film director Federico Fellini said, "A different language is a different vision of life." This year, the Bengaluru International Film Festival lends credence to Fellini's words. Around 200 films from about 50 countries were screened across a week from 26 February - 4 March 2020 Shindisi, a Georgian film tells us of a barely known story of a village during the Russo-Georgian war of 2008. A Danish film Onkel takes to the quiet countryside and the story of a woman who resides in the stillness of the mellow winds there. And a film much closer to home, yet, floundering in its attempts to be seen-Kenjira, a film about the distressing plight of the Paniya tribe of Wayanad, Kerala.

Language operates like a door. It is a foundational opening to the marvels of art that stretches across the expanse of the earth as we travel far and wide, catching glimpses into the lives of people and sights that we will possibly never encounter in the flesh. The attire of the villagers of Shindisi, the Danish rural landscapes, the rituals of the Paniya tribe, the inner suburbs of Melbourne in *Measure for Measure*.

Samuel Johnson wrote, "Language is the dress of thought." Access to films in multiple languages will confirm Johnson's words. We watch lives, often vastly different than our own, unfold before our eyes from while teaching informing, entertaining, and familiarising us with them. Our mind is tickled and excited as previously unheard sounds of a new language light it up. Language is a fertilizer, enriching the unoccupied regions of our mind.

It is a stimulant, stirring the mind into creative action, boosting our strife for knowledge and wisdom. A new language offers a new vision of life itself for us to ponder upon. We must actively seek out films from all pockets of the world for we owe it to ourselves to keep the human spirit aflame.

Much despair prevails in our world today. Death has become mere trivia. However, there are films being made in places where they are the only way for us to know about the lives of the people, their conflicts, their laughter, and their tragedies but above all-perseverance. Films, after all, at their best, are like mirrors, depicting us as who we are, encompassing every emotion that defines us.

Kenjira

Language: Paniya Director: Manoj Kana Duration: 101 minutes

Dignity. Stripped of it, what are we? In its absence, what does one become? Does your name still embody your identity if nobody knows what your name is? Who are you if you are merely a means to an end? What must you do to guarantee your existence? If repeatedly pummeled into the marshes of condemnation, how long will it be before you begin to forget your own self? What happens to you when your worth is trampled and left gasping for air that you cannot afford? Director Manoj Kana has been with the tiny Paniya tribe of Wayanad for a long time. He knows the Paniya language. He knows of their plight. He knows of their joys. He knows the muddy paths and the veering streams. The cast comprises of the Paniya folk themselves. Every time the camera lingers on a face, you can dare gaze into eyes that have witnessed anguish many can never hope to grasp. Manoj Kana's film crackles with empathy. That, perhaps, is its greatest virtue. Kana could not have made this story if he had commenced without yielding to emotion. There is a reason why he did not make the film soon after he found himself among the Paniya people two decades ago with a statewide street play, he needed to dig until he unearthed the roots of the emotion that would allow him to feel with unadulterated authenticity. He must have dug deep for this film is a revelatory triumph.





The small settlement has pinned hopes on Kenjira, the spirited girl, to study and become an "officer". She relishes the challenge and the dream. Her mother toils every day, struggling to earn enough to put rice on empty plates. The father is in jail after he is caught selling bootleg liquor. School teachers come to the settlement to enquire about absconding students. But their questioning is distressingly rudimentary. They have merely come to collect the Paniya elder's thumb print for documentation that proves they have performed their task. They leave immediately. Kenjira's mother finds work at the farm of a local landlord and has to leave. Soon, Kenjira decides to join her mother and earn additional wages to ensure short-term survival. The landlord casts a lecherous eye at Kenjira and her fate is sealed. Her mother watches mutely, sickened, horror-struck, immobilized. Who will believe her? She is a non-entity. It is her word against his and the scales are lopsided. For her kin, justice is an alien, inconspicuously tucked away in an unnamed vacuum of the cosmos. They collect their wages for the work and they seek comfort and validation for their silence. Kenjira is now pregnant. She refuses to divulge the truth. The trajectory she had projected for her life is now a meaningless line on a frayed graph. She delivers a baby boy. The police, like the school teachers earlier, arrive and accomplish nothing. They revel in their taunts and heartless whims. They look at Kenjira with disdain, firm in their belief that she is the cause of her own misery. They, too, leave immediately. A young man offers to marry Kenjira. He says he loves her. If they marry, the child will have a father to call his own. Kenjira will not be alone.

The relentless march of industry also arrives to decimate any remaining shreds of the tribe. A resort will be constructed on and around the area the Paniya folk call home. The elder convinces them that God has wished for them to leave and find a new home. They depart, uprooting their huts, their idols and their swiftly dwindling dreams. They have barely begun setting up a small area deeper into the forest and the police area in riot gear. The tribe is on land where they have no claim and the government demands their exit. The operation is direct and brutal. Only dust and broken limbs remain in its wake.

Manoj Kana says many truths he has presented in the film are gleaned from from real-life incidents including the rape of a young girl in the late 1990s.

The film is steeped in truth, grief, and bewilderment. And stark hope (or perhaps none). Manoj Kana films every scene with astonishing proficiency and

elegance. Several moments remind the eyes of paintings and can be paused and savoured. The nights are lit with only the flickering of resolute candles and wooden torches that interact with the dark, birthing resemblance to paintings in motion. Manoj Kana takes us close to the faces and we watch light in their eyes, sputtering and flaring. The film was made with non-actors and in a set they built with their own hands. Yet, Kana commands the camera with startling ease. It is abundantly clear that every shot composition serves the story. There is no fluff.



Director Manoj Kana

Manoj Kana bore witness to the desecration of identity and dignity. He took action. He raised his voice. He has showed us a clear and present truth. We shy away from it. But before we do, we must realise that somebody remembers our name. What happens if suddenly nobody does?



Onkel

Language: Paniya

Director: René Frelle Petersen

Duration: 105 minute

Tranquillity permeates the Danish rural region and director Frelle Petersen's camera sweeps across with a delectable poise. The grass sways in the embrace of unflustered winds, sparse machinery hums, and exultant insects chirp. Kris and her uncle sit in the kitchen, eating breakfast. She solves Sudoku puzzles while eating cereal. Her uncle applies butter on toast. Kris brings a kettle and pours coffee for both of them. Later in the night, they sit and watch the news. Her uncle eats cookies and sips more coffee. She nestles in the warmth of a comfortable sofa. He coughs and she instructs him to sit up when he eats. He complies.

They wash the tractor in turns. Johannes, the vet frequently visits to check the cattle. He leaves books for her to read about veterinary science. She accompanies him on a few assignments across the town. Mike, a farmer's son in the vicinity watches her with an obvious longing and often attempts to carry a conversation beyond mundane pleasantries. Stricken by family tragedy, Kris has since been living with her uncle. She shelved her veterinary school aspirations after he was assailed by a stroke. Now, both tend to the farmland and cattle.

The film thrives on repetition. We see variations of the same routines, breakfast, the evenings, grooming and



René Frelle Petersen, Director

caring for the cattle and the land. Most of these scenes are near-wordless. Kris (Jette Søndergaard) is pensive, speaking as softly as the wind sailing across the farms. Her uncle hobbles around, straining to be in control of his own faculties. Both seem to be at ease in a predictable bubble of affirmation. They do not swim against the tide but flow down a gentle stream of harmonious familiarity. Director Frelle Petersen knows this. Utilising his own life experience, he does not shy away from the ponderous nature of many sequences in the film. The deliberate and sluggish pacing is a premeditated



decision. If helmed by lesser hands, the film could soon become laborious or even disposable. But Petersen allows the characters to demonstrate authenticity and through their life, we witness the quiet triumph of humanity in its simplest and most fulfilling form.

Kris clearly does pine for Mike too and continues to dream of excelling in the realm of veterinary science. Johannes recognises her skill and constantly nudges her towards attaining the strength to fully commence upon her dream. But she knows the farm and her uncle are incapacitated without her. The farm needs her. Her uncle needs here. She is unsure if her personal priorities will endanger what she has. Mike presents the offer of a date. She agrees. No orchestral flair soars to tell us what to feel. In the stillness of the moment and the shy confirmations, the smudges of delight on their faces tell us everything we must know. And of course, Kris' uncle is at the restaurant with them. Jette Søndergaard (Kris) acts with understated grace, leading us through the saccharine vacuum of her life, inhabiting it with her uncertainties, nascent hope, strife and pursuit of simple but essential dreams.

Director Frelle Petersen moves his camera with minimal fuss. He lets the lenses simmer while the sun sets, the warm colours seeping into the view, and the wind continues to flatter the trees and the lush grass. Mike and Kris inch closer and watch dusk give in to the night. They barely utter any words. Like the rest of the film, the looming silence conveys more than sound could ever hope to relay.



The films Shindisi and Measure for Measure will be featured in the next issue



Soban Gul

A graduate in journalism, he works as scriptwriter and editor for studios like Netflix, Sony, Warner, Disney, BBC etc. Through Digicaptions India Pvt. Ltd. He has directed a documentary titled Kalakaar Ki Katha that was shortlisted for the Filmfare Short Film Awards, 2018. His Haiku poems have been published in 'Poets International'.

3

Bioprinting:

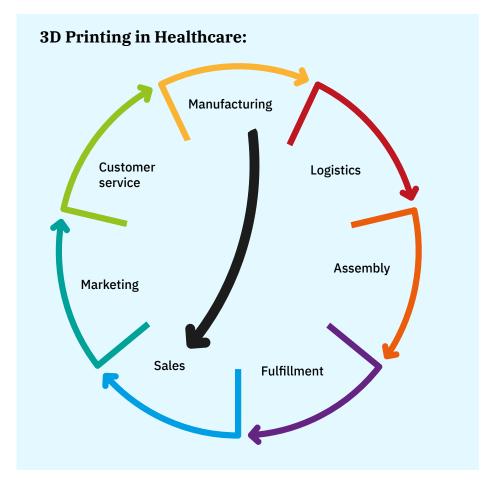
Quest towards Personalised Medicine and Treatment



dditive Manufacturing or 3D Printing as the world better knows it, is an integral tool that is set to disrupt manufacturing and play a pivotal role in the Fourth Industrial Revolution.

Industries that have already started adopting 3D Printing are mainly those that have recognised the benefits of low-volume and high-customisability - the biggest advantages this technology provides today for the manufacturing sector.

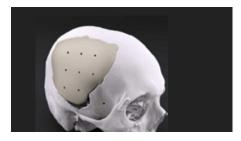
3D Printing has disrupted the supply chain of conventional industries such as aerospace and automotive. Elon Musk's SuperDraco engines that are part of the Dragon spacecraft, are set to power the new age rockets of Space Exploration Technologies Corp (Space X). They are 3D Printed using Metal 3D Printers. Automotive giants like General Motors (GM) are collaborating with software giants like Autodesk and using their new age 'generative design' software tools to produce complex Artificial Intelligence generated automotive parts, which are lightweight and have complex geometry. The end parts are then 3D Printed due to limited benefits of injection moulding and CNC milling mass manufacturing methods, to produce low weight and high complexity parts.



Medical Surgical Models, custom low-cost prosthetics, patient specific medical implants, personalised medication - a new era of precision and personalised treatments









Medical Sector

3D Printing in the medical sector has begun to show maximum impact. Using 3D Printed medical models, derived from patient CT scans, before every complex surgery has become a common practice in the West. Access to these models, usually printed using affordable biodegradable materials from a low-cost 3D Printer, provides an extra level of security and an option to practice complex medical surgeries before the real one. This practice has begun to gain traction in India with the emergence of several 3D Printing service providers in the marketplace. 3D Printed medical implants are also making inroads into the medical industry. With more and more medical centres in India seeking ISO 13485 and FDA compliance for their facilities equipped with 3D Metal Printers, a large market is opening up for custom 3D Printing medical grade metal implants on demand, right here in India. This is a step in the right direction towards the success of the 'Make in India' initiative, and consequently to reduce the price of medical implants.

The most impactful and hopeful innovation utilising the power of 3D Printing is the creation of tissues and, potentially, live organs on demand. 3D Bioprinting, which according to industry reports is seeing a 20-25% CAGR, is making its way into R&D labs of Pharma, Cosmetic and FMCG companies. Today, the technology is ready to provide 3D Printed tissues to R&D centres to test their products more effectively and rely less on animal testing. The future will see the convergence of complex engineering, biotechnology, and stem cell technologies to create transplantable

3D Bioprinting Mission & Vision





3D Bioprinting: Ending animal testing and reducing organ transplant wait-lists.

organs in the lab. This is the future we wait to experience a future where organ transplant wait-list numbers are down to zero and 3D Printing technology has the largest impact in extending human life!

Over the next few years, 3D Bioprinting is set to open new possibilities for pharmaceutical companies aiming to build personalised treatment solutions and precision medicine applications. One such example is the Organ-on-Chip (OOC). By being able to 3D Bioprint

tissue lines of various tissue types within fine microfluidic channels that simulate blood flow through them, pharma companies will be able to perform enhanced safety and efficacy studies on their new drug molecules. Current R&D time and cost ranges between 12-15 years and \$1.5 - \$ 2 billion for novel drug development. 3D Bioprinting along with precision manufactured microfluidic channels can help simulate an in-vivo multi organ environment and make early stage drug testing cost effective and time efficient.

Low-Medium throughput screening is the current standard for safety efficacy testing in early stages of drug development within Pharma R&D labs. Trivima is a customisable high-throughput bioprinter being used by German multinational Merck Group to help meet the needs of Pharma companies that would usually require printing specific volumetric droplets of bioinks (material used to produce artificial live tissue using 3D Printing technology) directly within multi-well plates.

Customisation is the key to developing effective solutions using 3D Bioprinting technology. There is no 'one solution fits all' option and most off-the-shelf.

Bioprinters do not provide the end user the flexibility to use their own biomaterials or the freedom to modify software settings to perform complex printing tasks.

The US FDA has already announced a new comprehensive regenerative medicine policy that is set to spur innovation in the space of tissue engineering. They have also released two guidance documents regarding regulating regenerative medicine therapies. This is a welcome move and will enable wider adoption of Bioprinting within medical and pharmaceutical industries and open the doors wider for collaboration.

"Providing a clear and predictable pathway to approval is a critical part of removing uncertainties for companies and fostering development of innovative, safe and effective products. The final



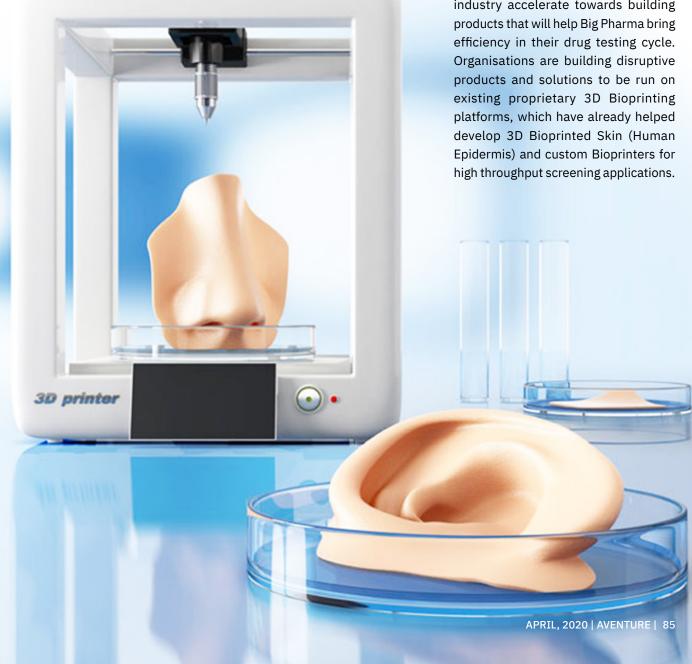
guidance issued today demonstrate our continued commitment to fulfilling this promise. We're providing information to product developers regarding how the agency intends to evaluate devices used with regenerative medicine advanced therapies, as well as providing information on the expedited development programmes that may be available to regenerative medicine

therapies targeted to serious conditions. Helping stakeholders understand our regulatory framework may help to more efficiently advance access to safe and effective regenerative medicine therapies. We know that cell-based therapies and gene therapies may hold transformative promise for patients. This is why the FDA is so committed to encouraging and supporting safe and

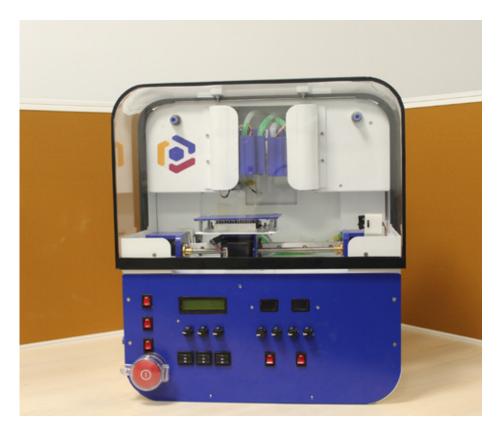
effective innovation in this field." – US Food &Drug Administration.

Going forward, collaboration will be the

key to success. We are moving closer to building cost-effective drug discovery and screening methods and are leaping towards eliminating unethical animal testing, more closely simulating in-vivo drug to body reactions and learning along the way to build transplantable organs in the lab. We are at the cusp of breakthroughs in the field of Bioprinting and the next five years will help the industry accelerate towards building products that will help Big Pharma bring efficiency in their drug testing cycle. Organisations are building disruptive products and solutions to be run on existing proprietary 3D Bioprinting platforms, which have already helped develop 3D Bioprinted Skin (Human Epidermis) and custom Bioprinters for high throughput screening applications.



Bits and Bytes

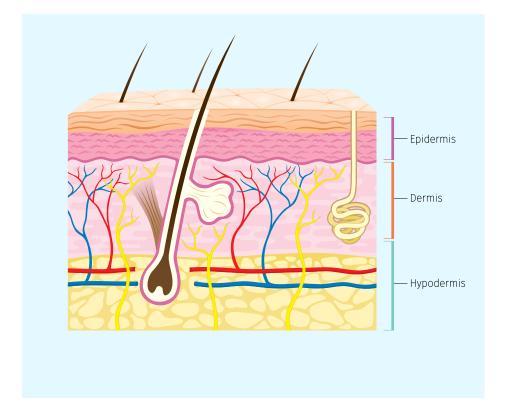


from discarded skin tissues collected from hospitals after surgery, with the patient's approval. The next step is extracting cells from the skin tissue and storing them for use during bioprinting. A bioink comprising of collagen and other trade secret biomaterials is prepared for bioprinting. The cells are then mixed in the bioink to form the main raw material for the bioprinting process. Specific three dimensional scaffolds designed structures are printed using the 3D Bioprinter, which is operated through software that gives it commands for printing through a G-code. The printed structure is then moved into an incubator, which mimics the inner human body temperature, oxygen and carbon-di-oxide conditions. Over a period of 10-14 days, we see the formation of the epidermal (top

3D Bioprinting of Skin– Lab Testing to Clinical Applications

Skin is the largest organ of the human body, in terms of surface area. Skin is the first barrier to external harmful agents (both physical and biological) that can enter the human body and cause health complications. Organisations have been successful in replicating the top layer of the skin, the human epidermis, through their proprietary technology, trade secret bioink and unique 3D Bioprinting processes. They can thus provide 3D Bioprinted skin to Cosmetic and FMCG companies for ethical and cruelty free alternatives to animal testing.

The process of Bioprinting of skin involves using patient's cells derived



Steps to Convert Skin Cells into Skin Tissues. Bioinks With cells 3D Bioprinting using our proprietary technology & process Skin Tissue product Incubation (Microscopic view with living cells)

skin layer) skin tissue, which is then shipped out to the end customer for testing purposes.

One such product, InnoSkin Human Epidermis (HE) is set to be launched in the market later this year and will set the ball rolling towards further research in the field of skin tissues, and in the future, hospitals will be in a position to provide patients with burns and skin related disorders, personalised 3D Bioprinted Skin manufactured using patient's own stem cells to avoid rejection by the body.

Lab grown 3D Bioprinted Skin, by Next Big Innovation Labs. Built to currently service the testing needs of cosmetic companies and as a future

product, benefit burn victims and those with injuries that require skin transplantation.

3D Printed Medical **Implants – On the Horizon**

3D Printed implants are most essential in areas which require low-weight, custom designed solutions. Some recent complex cases include a 3D Printed vertebra, which was used in a spinal reconstruction surgery in India.

Local 3D Printed implant availability can ensure quick turnaround time between problem identification and surgery. Other benefits include weight reduction (3D printed implants can be printed with strong lattice structure internal arrangement and not a complete 100% infill like traditionally manufactured implants); custom printed parts for better comfort (as opposed to limited sizes or one-size-fits-all approach used when procuring medical implants for patients, 3D printed implants can be custom-curated for right fit, size and weight).

How would 3D Printed replacement implants fare against more traditional



Bits and Bytes

Bio Implants? This is a debatable question. There are still no recognised publications which prove durability of 3D Printed implants within our bodies. Certain new alloy materials which can be 3D Printed and which can bring in the much needed biocompatibility as well as strength are pending approval as medical grade materials but have demonstrated to be viable alternatives to traditional titanium-based implants. The aerospace industry has started to certify 3D Printed components for aerospace use and similar methods must be adopted by the medical industry to ensure fast go-to-market of 3D Printed implants as the technology evolves and becomes more affordable.

Market Acceptance

Surgeons are used to working with traditional implants and they will continue to do so until they encounter a dire need to use 3D Printed implants. It is important to generate awareness among surgeons regarding the process of designing a custom implant and

manufacturing within an approved facility, so they see first-hand the added advantages of custom creating solutions for each of their patient's medical needs.

Certifications

ISO 13485 and ISO 10993 are some of the many certifications necessary to get approval for 3D Printed implants for in-vivo use. These certifications are necessary but are time-consuming and hence cause delay in the product reaching the market. There needs to be a fast track approval system, so each unique design and part does not have to be certified according to ISO rules and regulations.

Regulations

There is significant advancement in terms of newer biocompatible materials and designs for 3D Printed implants. Getting FDA or equivalent regulatory local governing body approval is a challenge and we need to work more closely with the regulatory bodies to

fast-track such approval. This way new age medical 3D Printing policy can stay in pace with innovation and companies face lesser regulatory barriers!

Circa 2017

- Custom 3D Printed scaffolds and tissue assays were built for use in Pharma R&D, Cosmetics testing, Drug Testing.
- Organ-on-a-Chip, Accelerated drug discovery, effective check for drug toxicity and efficacy, reduced dependency on animal testing and early sales of key lifesaving drugs
- Solve challenges to achieve scaffold-free structures and discover methods for rapid cell vasculature.
- Surgical Implants being 3D
 Printed using medical grade titanium as well as FDA
 Approved lightweight and high strength biocompatible material PEEK.

Circa 2030

- 3D Bioprinted implants that mimic the elasticity, porosity and strength of the bone.
- 3D Bioprinted customised, scaffold-free structures of various organs, using one's own stem cells.
- Replaceable organs 3D
 Bioprinted in the lab, reducing the need for donor organs.



SWOT - 3D Bioprinting

Strengths

Growing interest in the field of 3D Bioprinting in the past few years has resulted in advances in Bio-Ink, stem cell and tissue engineering research.

Weaknesses

Lack of resources and funding support for research activities, in developing countries such as India, where talent is in excess, but R&D funds are in shortage.

Two main complexities to tackle are cell vasculature (allowing blood vessels to develop so cells can stay alive) and cell heterogeneity (understanding properties of various layers of different cells that make up an organ).

Opportunities

Ban on Animal Testing for Cosmetics Testing. This could soon translate into a ban on pharma drug animal testing as well. 3D Printed tissue scaffolds can be the closest effective and viable alternative for testing prior to clinical trials stage.

There is a growing list of people on the global transplant list for organs and a breakthrough technology such as 3D Printing can help eliminate the long waiting line for cadaver transplant organs.

Threats

Pharma companies lobby hard to secure their market position and hospitals having commercial 3D Bioprinters that develop functional organs from one's own stem cells, could cause a dent in their post-op drug market. There could be strong opposition from pharma sector as we move closer to the reality of printing organs in the lab for in-vivo use.

Exciting times await us as we take the leap to achieve the unexpected. How the global scientific community comes together to solve the worldwide problem of organ donor shortage is worth a waitand-watch.

We look forward to living in the future where one's own stem cells are used to create a replacement functional organ, which will potentially be a perfect match and ensure zero rejection rates associated with organ transplants. Soon, we will be prescribed personalised 3D Printed capsules to deliver drug doses more effectively and in the right quantity and at the right time. In the future, we those on the transplant list will receive a



new lease of life through a 3D Bioprinted replacement organs such as lung, liver or kidney suited to the specific needs of the body.

2030 seems so far away and the challenges way seem herculean, but the commitment to give back to society and focus on using technology for social good is a powerful factor which will propel the 3D Printing industry forward.



Alok Medikepura Anil

Founder/Director at Next Big Innovation Labs and a member of World Economic Forum's 3D Printing Expert Network. Alok's team has successfully built India's first customisable 3D Bioprinter (Trivima) and 3D Bioprinted Skin (InnoSkin) for Safety and Efficacy testing.

Teen Suicide - A Growing Challenge

A moment in time when the child shuts in, caves in to the point of no-return.

arents of 19-year old Siddharth (name changed to protect privacy of the family) are inconsolable, as they are unable to come to terms with the suicide of their 6-footer 'seemingly happy teenager'. "He was the captain of his college football team. He was a lead guitarist of the college band and studying well too," says the father. In addition to trying to cope with the loss, they are unable to understand the cause and that is keeping them awake, since the fateful night.

Reena's younger sister and mother break down at the thought of the day they lost their daughter and sister to a moment of despair and extreme pathos. Reena (name changed to protect identity), 16-years committed suicide six months ago, perhaps in a moment of hopelessness or weakness. Unlike in Siddharth's case, Reena was dealing with clinical depression for two years. "We identified this early-on, and have been taking her to counselling and therapy sessions. And we thought she was responding and feeling positive. I still don't know what triggered this decision to end her life that night," her mother says with regret, pain and a sense of loss.

There are numerous cases, each one with a similar or different trigger point, but the crux remains, that there is a **trigger factor**, a deep and intense feeling that overwhelms the child to take the extreme step.

Major Mental Health disorders, as listed by the World Health Organization, include Depression, Dementia, Bipolar Disorder, Schizophrenia, ADHD, Anxiety Disorder and as one of the manifestations, Suicide. Globally, the suicide rate is mounting at 2% of the deaths, and is clearly related to depression, psychosis and substance abuse.

Raising The 'Right' Way?

Some parents feel they are doing 'ALL' that is good, important and possible, to make the child feel good. "We have

provided a great home, ensured all 'needs' are met," some say. While other parents opine that some homes are way too liberal and hence, they are strict, disciplined and structured in their approach, which is also the best way to manage growing children.

There are other homes where there is a balance between liberal-approach and an overall sense of discipline. There is another view growing amongst parents that changing lifestyles and ways of living have also contributed to the feeling of being disconnected. Leela Rangaswamy, an elderly citizen and a septuagenarian, is of the opinion, that families have become isolated and nuclear, creating so much of loneliness especially since, in most urban homes, the parents would be out in offices working late hours. "We all grew up in joint families, and there was always a surrogate 'mother', 'father' and dozens of uncles and aunts for the children, and there was almost no concept of loneliness." And yet, there is no guarantee that you have protected your child from these dangers.

Lonely and Disturbed

Epidemiologic studies in India and the world-over look for significant trends or patterns in the suicides. One of the most commonly known causes is depression, triggered by loneliness and an overall sense of abysmal pessimism.

However, one of the growing concerns and a key factor in abetting suicide is the deep sense of loneliness, abandonment and not 'feeling understood or wanted', which rides high across all children. While in general, conflict with parents, extended families, education system is accepted as a play of hormones, it is important that family and friends keep a watch on a sensitive child who may



not be able to accept and deal with this conflict easily.

Stanford Child Health cites many causes -- substance abuse, family violence and disharmony, past suicidal tendencies, juvenile delinquency, family history, undesirable life events like losses or tragedies, mental instability, etc. In contemporary times, abuse of internet including social media and smartphones are also abetting factors.

According to the National Institute of Health (NIH), suicide is associated with impulsivity, a moment when the child makes that fatal move and cannot reverse it. Adolescence and teenage is also a vulnerable and sensitive period in an individual's self-development, and a time when the child goes through lots of changes, transformation and it is crucial that this move towards adulthood happens peacefully and seamlessly.

Inability To Reach Out, Lack of Trust

The triggering factors could be diverse and complex but as a society we have an immense responsibility and that is to understand why the child fails to reach out, why the child is unable to seek help to resolve the deep disturbance boiling inside the mind and heart.

"One of the biggest reasons, in my view, is pressure of performance and it is the parents and society that has to take complete responsibility for creating this. Children tend to get overtly benchmarked against parent's expectations. The child is also expected to live up to parental expectations or unfulfilled dreams of parent themselves, which in my view, is a huge burden, a bundle of unreasonable expectations that the child cannot carry," opines Giri - Pickbrain, noted quizmaster and educationist.

It is critical and imperative to build a viable channel, a highly reliable bridge of communication for the child -- a channel of communication, where the child has built significant trust in the immediate and extended family. It is important to recognize and identify that the child is disturbed, in turmoil and can MOST DEFINITELY reach out for help.

On speaking to various teenage children, I get the undercurrent that they are riding a wave of distrust within their immediate family and groups. Most of them are unable to trust their own family members, parents and siblings, and the overwhelming feeling being that they will be criticized, neglected or punished if they reach out, definitely lurks in their little hearts.

"Often, the crux of the issue lies in the very home that the child belongs to. I deal with many cases where simple eye-eye contact with the family is missing. The child carries a feeling that nobody is listening and over a period, this builds up a huge emotional imbalance, an emotional void. They get addicted to gadgets soon and worse, parents are equally busy with gadgets, creating a sense of isolation in the child. Parents have to reduce the pressure of performance and teach children to be No. 2 and No. 3 also," states Dr Geetha Bhat - Clinical Psychologist, Music Therapist and Child Expert.

Conclusion

National Alliance on Mental Illness (NAMI) has developed a guide to help navigate the mental health crisis and emergency. It outlines all aspects that fall under a mental health emergency,

warning signs and strategies to deal with it, available resources and more. NAMI asserts that it is important to validate the experiences of the individual, and emphasizes the need for greater number of mental health professionals.

Psychotherapy is one credible way of helping children and adults deal with suicidal thoughts, urges and impulses. Deaths of youngsters in the age group 15 – 19 by suicide accounts for close to 10% of deaths amongst youngsters, and the numbers are only increasing and the data patterns analysing the causes are changing every minute. Above all, there is an irreversible loss, a pathos and pain for the child and for parents who have to live with the loss.

As a society, as an individual, let us do our bit and more to save a precious life. The child does NOT have to be yours, but you can play an important role in SAVING LIVES. IN



Aparna Shivapura

Founder, THOUGHT FLOWS is a thought leader, brand development and marketing professional with diverse experience in enabling brands personal and organisational goals. She writes regularly on Carnatic Classical Music, Ancient Healthcare systems etc.



young girl set foot on the peak of Mt. Everest and planted the Indian flag on 25 May, 2015. At 13 years 11 months, she set a world record as the youngest girl in the world to have conquered the Everest. She also unfurled the Telangana State Flag on the Everest, hours before the official formation of the state.

Poorna Malavath - A name that evokes awe and admiration! Not without reason. Take a look at these facts:

She scaled Mt. Kilimanjaro (Africa), Mt. Elbrus (Europe), Mt. Aconcagua (South America), and Mt. Carstensz (Oceania region). She accomplished another milestone just a few months ago by scaling Mt. Vinson Massif, the highest mountain peak in Antarctica. Her eyes are now set on Mt. Denali, North America's highest mountain. With this final victory, she will have conquered the seven summits across the seven continents of the world!

Poorna's tale speaks of grit, determination, courage and passion above all. Since the world record five years ago, she has sculpted herself from a timid, shy school-girl to a confident sportsperson, who is pursuing an undergraduate course at the Minnesota State University, USA, as a fellow of the Global Undergraduate Exchange programme.

With clarity about her future, Poorna oozes conviction in her potential. She says, "I want to return to India after my under graduation and take up the UPSC exams." Her sporting achievement aside, she is now on a journey to reach out to the larger community. She is fuelling dreams in millions like her across



Poorna Malavath with Her Parents Devi Das and Lakshmi, and Brother Naresh

the country by her sheer achievement. She also has concrete plans of involving herself with youth at the grassroots to spur them with ambition to set goals and achieve them. "My own life is an example of how progress and growth is possible with opportunity and encouragement. I want to now make this possible for thousands like me."

Yet, her persona belies humility and gratitude. I had the opportunity of editing a biography of Poorna, written by Aparna Thota. I spoke to Poorna over the phone a couple of times and the evening of the release of the book, a few months ago, Poorna called from Hyderabad and said, "Ma'am, I wish you were here. We will miss you. Thank you for everything." The warmth of her words was touching. Editing the book, trying to delve into her thoughts and emotions as she made the phenomenal journey from Pakala, a small hamlet in Nizamabad District, Telangana to the treacherous Himalayan summit, I had developed a special bond with this girl.

Poorna's story above all is a tale of the triumph of the human spirit. Hailing from the Banjara tribal community, her ancestors had migrated from Rajasthan to Telangana a couple of generations ago. Living in abject poverty and at



Practice Session



With Coach Sekar Babu

the margins of society, deprived of all rights guaranteed to the Indian citizen, her achievement illustrates that equal opportunity is the biggest hurdle for the deprived. It is commendable that her parents, Devidas and Lakshmi, despite being farm labourers, dreamt of providing Poorna and her brother good education. Poorna says, "My parents never imposed anything on my brother or me. They always insisted on only one thing-hard work in whatever we do. My father was convinced that education is the only way forward. I believe in it too. So, all along, my studies have been a priority, besides mountaineering." Her parents were very sure that they wouldn't push her into manual labour or marry her off. Poorna was thus admitted to the Social Welfare Residential School at Tadawai, one among the several welfare schools run by the Government of Telangana, and this proved to be a game-changer.

At another level, Poorna's achievement speaks for the importance of the right

'intent' of policy makers. Behind Poorna, is one such person - Dr. Praveen Kumar, IPS. Praveen Kumar, after a long stint in the IPS, took a voluntary transfer to the Social Welfare Department driven by his intense desire and calling to make better the lives of his marginalised brethren. His first task was to revive the Social Welfare Schools across the state. As a result, was born his brain child 'The Swearoes'. In a short while since its inception, the Swearoes movement has become a force to reckon with in promoting social justice and making the country truly democratic.



Poorna Malavath with Her Icon Dr. Praveen Kumar

Among the various schemes Praveen Kumar rolled out, was project Mount Everest for the Social Welfare Residential Schools of the state. Poorna enrolled herself into a basic rock climbing course at the age of 12, little knowing that she would become one of the most celebrated mountaineers the world over. Praveen Kumar in his introduction to Poorna's biography says, "Poorna's expedition was launched not to break records, but to break the mental barriers of the poor in their journey towards



Poorna and Coach Sekar Babu with Prime Minister Modi

liberation." Poorna goes on to prove the Swaero's first Commandment: 'I am not inferior to anyone.'

For change to occur, the agents of change must emerge intrinsically and organically. External measures may bring about changes only to a certain extent. "Most of the welfare schemes in this country have been mere palliative programmes that fail to address the crux of the problem," opines Praveen Kumar and states that these could not "create the critical mass of leaders or idols from the communities who could lead the change on their own."

Praveen Kumar has been her icon and inspiration. "Praveen Kumar sir is my biggest support and role model. He has been constantly pushing me to take up bigger challenges."

Poorna has excelled in a purely male dominated sport. This sport demands raw physical energy and tenacity, and mental resilience in equal measure. "There is no alternative to hard work. A strict exercise regimen to build stamina and a constitution that can easily acclimatise to high altitudes, a high-

protein diet, understanding the terrain, learning new mountaineering techniques are the most important requirements for this sport. The mountaineering gear and equipment is heavy, besides we have to carry the oxygen cylinder, so essentially it is about being physically and mentally fit. A positive attitude is also essential. I have learnt to smile through all the hardship."

Sekar Babu, Poorna's coach has played a big role in her success. Since, the first rock climbing course, he has been mentoring Poorna. "Sekar Babu has been my coach since day one. He knows my weaknesses and strengths. Irrespective of where I am in the world,



Mount Everest

almost every day he gives me a workout schedule. His faith in my abilities is my biggest source of inspiration. He has been preparing and training me for more and more challenging mountains year after year."

Which of the mountains was your

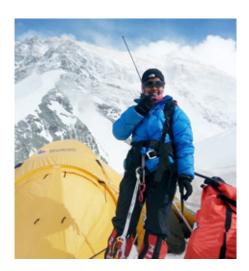


Atop the Cartensz Pyramid in Indonesia (Oceania region)

favourite ascent, I ask her and pat comes the reply, "I really cannot pick one over the other. But the truth is that every ascent, whether the Himalayas or another, half its size, poses its own challenge. So I'd like to think of each as equal if not more challenging. Every mountain, every ascent is close to my heart," she says with a twinkle in her deep, dark eyes. Nostalgic and suddenly shifting to a philosophical tone, she says, "It's incredible. The experience of befriending every mountain brings some profound change in me, which, right now, I am unable to express. But perhaps, as I explore more mountains and make more ascents, one day I will be able to translate this visceral experience into words."

At a young age of 20, and with such an illustrious mountaineering career, I wonder if the stress and pressure that comes with the sport, the media attention and the constant need to improvise has taken a toll on her. Has she ever felt that she lost her childhood? Without batting an eyelid, she says, "I think my childhood has been gifted! I wouldn't be climbing mountains if I were to succumb to pressure. Having said that, yes I do undergo stress and pressure. But I have never let it get under my skin, thanks to the constant support and motivation of my mentor Praveen Kumar sir and my coach Sekar Babu. I am also very thankful to my parents for letting go of me and believing in me."

Her achievement subverts the sporting establishment that promotes cricket above all sport, and questions the media that fails to report achievements of women sportspersons and achievements in fields other than cricket.



Poorna's narrative has at once shattered several stereo types. Given only 'opportunity' she has risen like a phoenix from the burning cauldron of poverty and marginalisation. Wishing her many more successful journeys, I end the call.

(Watch the Hindi film *Poorna: Courage* Has No Limit directed by Rahul Bose.)

Solo Travellers' Paradise

Travel Solo and Commune with Self

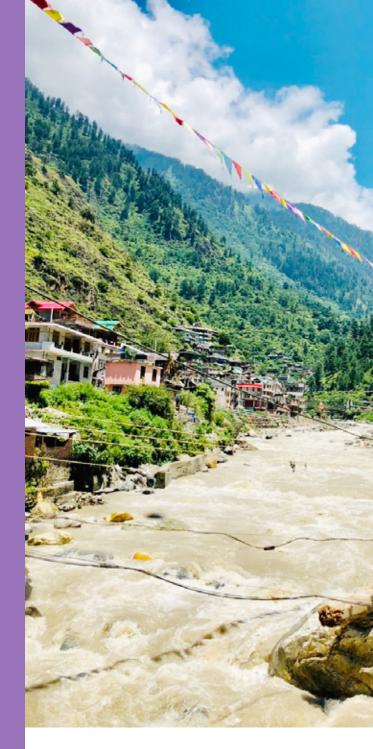
Shwetha H C

f you never go, you'll never know." Of all the travel quotes, this one has stuck with me. Travelling with friends, family or your significant other is fun, but arriving at a consensus about the destination of your fellow travellers can be quite a task. Besides, being on your own in a new space is always gratifying. Travelling solo can surely be an exhilarating experience because you are the sole decision maker of where you want to go, what you want to do and how you want to spend your time. That is what I call a truly liberating moment. Well, if you have already made up your mind to travel solo, isn't that a decision? Solo travel not only lifts your spirit and calms your soul, but over a period of time, it also helps you become your

Of all my solo travel experiences over the years, some of the best memories are from Kasol in Himachal Pradesh in the North of India, which let me soak blissfully amid the snow-clad mighty Himalayas. It provided me sufficient opportunity for introversion and development with unrestricted freedom.

Kasol – Himalayan Wonder

When I took off to Kasol, little did I know that my life was to change drastically post this trip. The Himalayas does that to you; standing amidst the mighty mountains, all my problems seemed insignificant. Though my initial plan was to do only the Kheerganga trek and explore other places in Parvati Valley, I ended up walking and exploring a lot



Although the flight from Bengaluru to Delhi and an overnight journey to Kasol wasn't tiring, the drive through the curvy mountain roads made me a little nauseous, but the precautionary medications worked in my favour. After a nightlong journey to Kasol, a few hours' of deep sleep in the morning charged me for the journey ahead. The evening was spent in exploring cafes and the local food - more of dim sums and momos and of course the great Himalayan food - Maggi!



from Barsheni to the hilltop is about 12 km and can be completed in 8 to 10 hours, I stretched the trek to 24 hours since we urbanites rarely get to spend time amid nature in the hills.

Halfway through the trek, by evening, I camped at a small village and all I could see were houses made of wood which piqued my interest. With no phone network, I walked around the camp and conversed with a few villagers who narrated stories, some mythical about Kheerganga and some about the impact of the recent mass tourism culture. As I guizzed them about the choice of wood as building material, they said that wood keeps them warm in winters and cool during summers as the mountains experience extreme weather conditions. Well, while nature counters us with some challenges, it also concurs by providing some solutions That's the beauty of nature. Isn't it? So, with this thought I called it a day and dozed off in my camping tent.

When I peeped out of my tent around 2 am, I was ecstatic to view the full moon emerging from behind the peaks that stood majestically. The sight, which cannot be interpreted in words but only experienced, still remains one of my favourite moments from the trek.

On the third day, I reached the hilltop within three hours. Atop is a Shiva temple, and a hot spring pool, with separate sections for men and women. While the hot-spring pool for men is out in the open amidst scenic views, the women's section is more of a private pool with a separate segment to change clothes. A dip in the pool is all you need to say goodbye to your sore muscles; the bath itself is an enjoyable and incredible experience. Watching snow-capped mountains while sitting in a hot spring

The following day, I took an early bus to Barsheni, a tiny village, from where I would trek to Kheerganga. Trekking up to the Kheerganga, situated at an altitude of 2960 m in Parvati valley is one of the most memorable ways to experience the stunning views of the Himalayan peaks -walking amid lush green forests and occasional encounters with turquoise blue water sources. Though the stretch



Hot Water Spring Pool



Gurudwara at Manikaran

with fresh breeze caressing your skin is an experience hard to forget, and when nature throws it for free, I embraced it with both arms. Since there are plenty of cafes along the trek route, you don't have to carry food or even water; and, that way you don't dispose plastic in the hills.

There are two ways to reach Kheerganga - one via Kalaga village and the other via Nakthan. While the Kalaga path takes you through thick woods punctuated with waterfalls and offers a greener picture, the Nakthan route takes you through several villages, and is mostly filled with cliffs and boulders, making it difficult and noisy. I suggest trekking up via Kalaga and trekking down via

Nakthan. That way, you can experience the best of both worlds. I trekked down via Nakthan, and reached Tosh village on foot as the sun set in the far horizon. Though there was nothing much to do at Tosh, the solitude and peace made me stay put in a local hotel where I spent time stargazing. Exhausted from the long trek, I did not venture out that night.

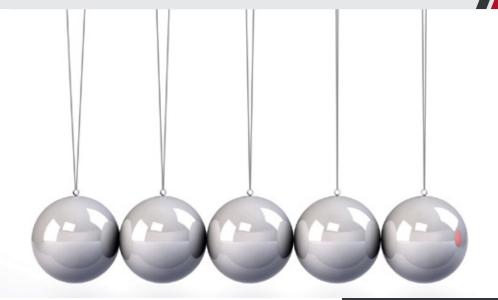
The subsequent day I decided to explore the famous Gurudwara in Manikaran, which is an hour-long drive from Tosh. Located on the banks of river Parvati, Manikaran showers spiritual experience to both Hindus and Sikhs. Having heard about the lip-smacking Langar at the Gurudwara, I couldn't help but give it a try and was glad I did. As the dusk set

in, I treated my taste buds to authentic Israeli food that flood the streets of Tosh and as I walked around, I ended up buying a lot of souvenirs too. I decided to spend the last day of my travel at Malana - a town 'so pure' and isolated from the rest of the world.

After a 2-hour drive and a short trek from Tosh, I reached the Malana village. The villagers here consider themselves descendants of Alexander the Great. Hence, visitors are not allowed to touch the villagers or their belongings - even accidentally! Videography and candid photography is strictly prohibited in this village. If you break the rules, you may end up coughing up heavy fine. The residents of this village follow numerous taboos and a visit itself is quite an experience. It was overwhelming to see people sticking to the old book and rules despite the progress in technology and lifestyle. Some kids and youngsters were eager to talk, but many, especially the older generation, didn't bother responding to my curious questions. Malana too has cafes and food joints, but local transport isn't tourist-friendly. As I was reminded of my flight to Bengaluru in the evening, I had to say goodbye to a wonderful journey and with lovely memories etched for a lifetime. People in the Himalayas are very friendly and are always happy to help. You also get to meet many solo travellers, especially women, backpacking with a lot of zeal. Most of them initiate conversation and are more than happy to share their experiences in India. Kasol is indeed the safest bet for solo travel, especially for women. So, don't think twice before booking your tickets!









Jain (Deemed-to-be University) envisions a better tomorrow

Through innovation, motivation and perseverance

To inspire and create an

IMPACT

Jain (Deemed-to-be University), Bengaluru a pioneer in education, attracts students from over 38 countries to one of the most dynamic cities of the world, Bengaluru. The University regards vocational skills along with academic excellence as its priority to promote holistic development of students and produce the leaders of tomorrow. The diverse and vibrant culture helps students in becoming successful team players and embrace the professional life ahead. With state-of-the-art facilities and excellent mentors, the University provides the most conducive atmosphere to motivate its students towards their innovative pursuits and athletic aspirations through which they can inspire generations and create an impact on the society.

