



VOLUME05 | ISSUE01 | JAN2013

SENTIENCE

We make you news.

Two years at it and still going strong.

In this issue

From Forests to Forschung

Clash of the Titans

The epic battle between all five IISERs on the sports arena >> **Page 4**

Rendezvous with the Registrar

The indispensable Registrar speaks out >> **Page 5**

SPIC MACAY

Unveiling cultural treasures from Assam. >> **Page 6**

Boom Boom Bang

It just keeps coming back at you! >> **Page 7**

Janata on the Rajpath

A nation cries out, and a student gives voice >> **Page 8**

Be Grateful to the Mess, I Say

A different point of view >> **Page 11**

Love in the time of Curfew

Of birds, bees and flies in the ointment >> **Page 12**

Editors

Aashay Patil
Krishna Anujan



Dantewada kids at the Jigyasa Science Camp

Jigyasa, a 5-day long science camp for students of Dantewada, Chhattisgarh, was conducted in Pune during 18th - 22nd December 2012. It was a part of the educational activities of the 'Bachpan Banao' program, which is an educational fellowship program being implemented in government schools at Dantewada. This science camp was organised by IISER Pune and supported by Jnana Prabodhini Pune. Disha - a voluntary organisation of IISER students - was closely involved in coordinating this camp.

The main objective of the camp was to give students exposure to what they lack in Dantewada and to get them excited about science and education. The idea was to give them a flavour of various exciting fields in science. Hands-on activities and field visits were greatly emphasised on. Enabling the students to develop a scientific attitude and appreciate the methodology employed in science was an important objective of the camp. Therefore, rather

of being presented with direct answers to their questions, they were encouraged to understand the scientific method of finding answers.

The camp was inaugurated at IISER by Prof K N Ganesh, Director, IISER Pune, Vivek Ponskhe, Educational secretary, Jnana Prabodhini, Neeraj Bansod, CEO, Livelihood College, Dantewada and Dr. Yogesh Kulkarni, Director, Vigyan Ashram. Dr. Anirban Hazra, Assistant Professor, IISER Pune conducted a hands-on, demonstration-based session on "Chemistry in daily life". There was an engrossing session on aeroplane-making in the afternoon by Sadanand Kale, in which students themselves made aeroplanes using thermocole, etc.

On the second day, the students went to Singhgad valley, collected a few specimens and observed them under a microscope at the Biology laboratory at IISER. In the evening, Dr. Satish Pande gave an interesting talk on observing **Continued on Page 2**

A Multitude of Mind Games

The questions were set, bags were packed and thus began the chant of the holy mantra - Mimamsa. Mimamsa 2013 prelims kicked off on a great note, on the 13th of January. With registration desks abuzz from 9 am, it hosted teams travelling far and wide to participate in India's toughest science quiz competition hosted by IISER Pune.

The quiz featured four sections- Physics, Mathematics, Chemistry and Biology. Each section had 10 main questions and 2 tie-breakers, all which had to be covered in a span of one hour. Undoubtedly, as the minutes ticked by the murmurs got louder and one could feel the spirit of Mimamsa buzzing in air.

At the end of one hour, the papers were duly collected and the teams heaved a sigh of relief. For many, it had been all Greek and Latin while



The MIMAMSA Prelims

others discussed with amusement the tales of Rajanikant, Mangamma and the lizard from prelims paper.

The quiz, which was conducted at just 4 centers until 2010, has now been made a national event, with Delhi, Kolkata, Mumbai, Pune, Chennai, Hyderabad and Bangalore as its main centers. The overall turnout was 139 of the 232 registered teams. This was significant-

ly larger than the previous years.

This Mimamsa episode showcased some of the best teams from top universities and colleges from India battling it out for the top four slots. The four finalists are the teams from: Birla Institute of Technology and Science (BITS), Hyderabad, Indian Institute of Science (IISc), Bangalore, National Institute of Science Education and research (NISER), Bhubaneswar and St. Xavier's College (Autonomous), Kolkata. In addition, the center-wise toppers were also acknowledged and given small incentives.

The Mimamsa 2013 finals will be a gruelling 14-hour quiz competition, and will be held on the 16th and 17th of February. The final leg of the race will truly be challenging. So, finalists, gear up and put your best foot forward, for truly, the spirit lies within.

From Forests to Forschung

Continued from Page 1

birds. He had been to Dantewada and has also authored a book on birds of Chhattisgarh. This helped him connect better with the students.

The next day started off with the students learning to make toys from trash with the help of Arvind Gupta's team at IUCAA. Another talk by Dr. Prakash Tupe on various astonishing aspects of astronomy was followed by students visiting the science park at IUCAA. At night, Mayuresh Prabhune (Khagol Vishwa) conducted a session, where everybody gathered on the terrace of Jnana Prabodhini and observed the moon and Jupiter through a telescope.

A visit to Vigyan Ashram, Pabal, was organised on the fourth day, where they were taught about the connection between science, technology and small scale entrepreneurship through multiple projects that the students worked on. They also visited a few small scale entrepreneurial ventures.

On the fifth day, Prof. A A Natu of

“

Enabling the students to start developing scientific attitude and appreciating the methodology in science was also an important objective of the camp.”

IISER Pune spoke about an interesting topic, “Technology inspired from nature”. Following this, the students performed experiments on topics which were thus far only limited to their textbooks, at the laboratories in Jnana Prabodhini. These sessions were planned by Vijnan dal, Jnana Prabodhini.

The 53 students from 28 schools across the district of Dantewada who participated in Jigyasa Science Camp would remember this experience for their lifetime! They are surely more excited and inspired about science and further education after their participa-

tion in the camp.

It was evident on the last day that the students had thoroughly enjoyed the camp and had gained a lot of knowledge. The participants were encouraged to share what they learnt here with others back home.

It is also planned to have postal communication with the participating students in order to help them start some of these activities at their schools.

The camp was a great experience for all the volunteers (who were from IISER, Vijnan dal and the Competitive Examination Center at Jnana Prabodhini) and for the organisers' team. It is indeed expected to act as a boost for the educational activities at Dantewada.

Links:

1. <http://bachpanbanao.wordpress.com>
2. <http://iiserpunedisha.wordpress.com>
3. <http://www.vigyanashram.com>

Visiteurs de Marque



Prof. Ei-ichi Negishi

On 10th January 2013, the students of IISER had the great opportunity to attend a talk by the Nobel Laureate Ei-ichi Negishi at the NCL auditorium. The Japanese chemist was awarded the Nobel Prize in Chemistry for his discovery of the famous Negishi Coupling reaction. He started his talk by briefing the audience about his education and background, after which he described his research in metal catalysis. He compared the catalysing ability of nickel, platinum and palladium, and juwhy palladium was a superior catalyst. He also went on to explain the process of making an optically pure compound, which is only in the E or Z form, using metal catalysis and Negishi Coupling. He kept the mood lively with his unusual sense of humour. The next day, an interactive session was held at HR4, where students and faculty posed queries to him, all of which he answered patiently. He was extremely friendly and said that he really enjoyed his visit to India, and also developed a great taste for Indian food.

Spirited Science

IISER Pune hosted the Inspire internship camp from 10th to 14th December 2012. The aim of the camp was to spark an interest in high-school students to pursue a career in science. This four day camp attracted over 120 participants from in and around Pune.

After the inaugural address by Professor K N Ganesh, there were a series



Prof. Benedict Gross

After hearing Prof. Raghuram's description of him as "one of the coolest mathematicians", a bunch of enthusiastic students poured into the Multipurpose hall before Prof. Benedict Gross' seminar on 12th January. Titled "Solving Cubic Polynomials", the talk was much anticipated in the nerdy circle.

The seminar began with a very informal introduction of Prof. Gross by Prof. Raghuram (where we found out that Prof. Gross is Dr. Steven Spallone's uncle and Prof. Raghuram's grand-teacher). During the course of the talk, he gave us an overview of old and new ways of solving cubic polynomials. Skipping over the details, so as to make the talk more accessible, he gave us a very good idea of how "techniques" have progressed over the years.

All in all, it was a short and crisp talk with not a lot of detail, but it gave everyone in the audience a good overview of the subject.

of lectures followed by a workshop by Arvind Gupta. Some of the noted speakers were Anindya Sinha and Vineeta Bal, on primates and Immunology, respectively. The speakers shared their experiences and left the students with priceless words of wisdom.

The itinerary also included an experimental session, a tour of the IIS-

Academic Buzz

1. Visiting Students' Programme, Ramman Research Institute, Bengaluru

Duration: 6 weeks to 6 months (any time of the year)

Link: <http://goo.gl/00Enb>

2. National Conference on Recent Advances in Statistics with Applications in Finance and Actuarial Science (RASAFAS), Department of Statistics, Central University of Rajasthan

Duration: 22nd-23rd February

Link: <http://goo.gl/mQkbt>

Deadline: 5th February

3. Summer Programme in Mathematics, Harish Chandra Research Institute, Allahabad

Duration: 16th June - 4th July

Deadline: 15th March

4. Visiting Students' Programme in Physics, Harish Chandra Research Institute, Allahabad

Duration: May-July

Link: <http://goo.gl/qQMZQ>

On the occasion of our 2nd anniversary, we have renovated our website. Check it out for regular updates@
tiny.cc/sentience



Send us your feedback at
sentience.iiserpune@gmail.com

ER campus, a panel discussion on the merits of a career in research, documentaries, and a play on Einstein by the Hashar theatre group.

Dressed in green and armed with jute bags, the participants' enthusiasm stayed undiminished for the entire duration of the camp. Surely, this means that we can hope to see many more new faces at IISER next year.

Clash of the Titans

Kalyanee Shirlekar



Prof. Ganesh felicitating the winners at IISER Pune



The Basketball Champions



The IISER Pune Contingent Celebrating their success at IISM

It was the 10th of December. A huge crew of around 70 students was waiting at the Pune Railway Station for the Azad Hind Express to arrive and take them to Howrah! After a month of hard work, endless practice forsaking blissful sleep in the tormenting November chill, it was an eagerly awaited event for these sports fanatics. The first Inter IISER Sports Meet was finally going to take place in IISER Kolkata and everyone was excited. All of us boarded the train brimming with team spirit, discussing the strategies that could be implemented on field.

The journey began with a few tense moments in anticipation of the announcement of grades. All of a sudden there were frantic calls from the train as everyone was eager to know how they had fared in the previous semester. It was a long 36 hours of train journey during which people found several ways to entertain themselves like watching movies, playing UNO, chit-chatting, and for the lazier of the bunch, sleeping or eating.

We were ceremoniously welcomed at the Howrah Station on 12th December at 4 in the morning by a couple of IISER Kolkata students and, quite unexpectedly, by a brief drizzle. Finally all of us, partially dazed, set out for the IISER Kolkata campus.

IISM was held in the IISER Kolkata campus from 13th to 16th December. As we reached a day early, we were thrilled to spend our first day roaming around and exploring the 400 acre campus, which left us panting despite having explored less than half of it.

On the 13th, teams of all 5 IISERs and NISER were pumped and waiting for the tournament to commence. After an oath-taking ceremony in which all the teams participated, and a special mention of the IISER Pune crew, commending their punctuality, the sport meet officially

began. There were 9 events for boys, namely cricket, basketball, volleyball, football, badminton, kho-kho, kabaddi, table tennis and athletics, and 2 events for girls, badminton and table tennis.

The first day saw mixed results, in which luck favoured the basketball and kho-kho teams, but defied the badminton, football and volleyball teams. The second day was the most depressing and unfortunate day for the Pune squad as it knocked out our hopes in cricket and badminton.

Table tennis and kabaddi witnessed a similar fate the following day. Though the boys had to suffer defeat in badminton against the IISER Kolkata team, the audience witnessed an excellent display of smashes and drops from both the teams.

In the girls' singles badminton tournament, Kalyanee S managed to bag a silver medal. On the final day, Deeksha and Prachi bagged the silver medal against the strong Kolkata team while Alisha and Kalyanee secured the Bronze medal.

The athletics events were among the most fun events to watch. Our relay team secured the second position in both the 4x100m and 4x400m relays. Varun was the first of IISER Pune to win a bronze medal in 3000m. The athletic events were mainly dominated by the Trivandrum participants who put up a terrific show. But overall, the hosts emerged triumphant as the winners of the first IISM.

On the final day, 16th December, an expensive DJ party was arranged for all the participants.

Before we knew it, we were back on Azad Hind on our way home. This time our primary source of entertainment was Mafia. This game, involving characters like Citizens, Mafia, Angels and even "God", left us wondering how in "God's" name did 36 hours go so fast!

Rendezvous with the Registrar

This month we bring to you a conversation with Dr. V S Rao, our indispensable Registrar. In this honest heart-to-heart, we get to know his measured opinion on life at IISER. Here are a few excerpts.

ST: Could you tell us a little about your career as an academician?

VSR: I did my Masters in Botany at Osmania University, Hyderabad and moved to Delhi for pursuing Doctoral research in Genetics and Plant Breeding at the Indian Agricultural Research Institute. I was offered a scientist position at the Agarkar Research Institute, Pune where I went on to continue my research for the next 36 years. I also served as the Director of the institute during the last 8 years until my retirement in 2008. Then I joined IISER as a visiting faculty. Within few months of joining here, I took up the responsibility of helping in the administration in the capacity of officiating Registrar.

ST: As the Registrar of IISER Pune, what are your responsibilities and powers?

VSR: Functionally, the Registrar is the custodian of all the records of an Institute and the Head of the Administrative department that includes establishment, finance, purchase etc. His job is to ensure that the functioning of the Institute is unhindered and remains within the ambit of rules and regulations. Being a researcher myself, I think I understand the aspirations and requirements of the faculty better. I presume I have done reasonably well in this position, to reduce red-tape and put the functioning of administration in fast-track.

ST: Do students often approach you with queries that are better addressed to the faculty or the admin?

VSR: Neither do I insist that everyone should approach me nor do I shirk away saying, "it is not my job". Personally, I would love to extend any help I can, to them. Even if I am not the right person they should be addressing some issues to, I would gladly guide them to the person concerned. I never shrug off any of the responsibilities



Our officiating Registrar, Dr. V S Rao

I bear, though it may sometimes lead to situations like being woken up at two in the night. I really don't mind. The faculty should be left to concentrate on teaching and research rather than be bothered with problems that can be sorted out by admin. I am part of both faculty and admin, so any way, it is my responsibility to address the students' problems.

ST: What are your thoughts on replacing commonplace and meaningless forms of punishment, like levying fines, with community service? If reformation is the goal, community service seems a better idea.

VSR: Personally, I feel a situation of levying fine should not arise at all. We have been considering the promotion of NCC and NSS among our students to encourage them to become more committed. We are a growing institute and lack the manpower to sustain all these activities at a go, but we will definitely look at all possible alternatives that will inculcate the spirit of community service.

ST: Do you think that the students of IISER Pune are proactive enough?

VSR: Yes, definitely. The students are actively involved in various undertakings, be it social causes such as Vastrasamman, Disha etc. The Photography, Drama, and Music clubs as well as Bookworms are all active throughout the year and, of course, there is Sen-

tience. I am glad students are pursuing their innate talent and skills, but it should not be at the cost of academics. I am happy that students have these opportunities, which we lacked in our college years.

ST: Do you think we would function more efficiently if we had a student body?

VSR: If it is a student association that you are thinking of, why not, as long as it is in the best interest of everyone and is meant to address common issues. We already have a student welfare committee which can be extended by having more student representatives. The mess committee of students is doing a good job. The academic atmosphere at IISER must be preserved at all costs and as long as it is undisturbed, any representation is welcome.

ST: What do you think of Sentience?

VSR: In the past I have had a few apprehensions about some of the content in the newsletter, but in the last couple of issues there have been no problems. I like the idea of Sentience. I myself had planned on starting an IISER-P monthly to report all the activities within the institute, but I am glad the students took the initiative to start Sentience. It is definitely one of the positive features of the institute.

ST: We often see you with a camera. How did you grow fond of photography?

VSR: I always liked photography but never took it seriously. I used to take a few snaps now and then, but started getting deeply involved in photography only after I joined IISER.

ST: What message do you have for the student community of IISER?

VSR: Being part of IISER is a rare opportunity for the students as well as us. You should make the best of it. An Institute is judged by the students that leave its portals. You are the ambassadors of the institute and should strive for excellence. But most importantly, become good citizens and take pride in whatever you do and make the institute proud of you.

SPIC MACAY

Shruti Paranjape

Hello everyone! Welcome to Sentience's brand new addition - the SPIC MACAY column! As many of you might be aware, SPIC MACAY (Society for Promotion of Indian Classical Music And Culture Amongst Youth) is an organisation that aims at promoting the rich cultural heritage that we Indians enjoy.

The Pune Chapter of SPIC MACAY would have been half of its strength if not for the huge number of culture-enthusiasts here at IISER. So in one of our many pre-dinner meetings around the Fountain, we decided that this would be the best way to tell people about one new art form every month.

Though many people think that the label "Classical" dance is completely arbitrary (due to the widely varied styles labelled Indian classical dance), all these forms arise from one mother style. The "Natyashastra" is a manuscript which is considered the Bible of all present-day dance, drama and music forms of Indian origin.

Different classical dances pick up and drop different parts of the *Natyashastra* and few follow newer texts, but the essence of most movements, the sensibility and *Abhinaya* come from the *Natyashastra*.

All of us know the classical dances of India - *Manipuri*, *Bharatanatyam*, *Kathak*, *Kathakali*, *Odissi*, *Mohiniattam*



Sattriya performers

and *Kuchipudi*. Recently, (as of 15th November, 2000), an eighth dance form was added to this list - *Sattriya* (pronounced *Hottriyō*).

Sattriya originated from the monasteries of Assam and was originally performed by men as an accompaniment to *Ankia Naat* (Assamese one-act plays). It's origin is greatly credited to Sankardeva. In the past century, as *Sattriya* emerged onto the metropolitan stage, its strict adherence to certain dated rules (that only men can perform and can do so only in mon-

asteries) delayed its recognition as a classical dance form.

This dance form is very graceful and its stories encompass a variety of human emotions that I urge you all to experience. I shall leave you with a name: Ramakrishna Talukdar. Go forth and google it.

Interested? Check out https://www.youtube.com/watch?v=YJ15-IRx_dA and punespicmacay.wordpress.com for more details.



When smart people can play - Birbal (Sweet Poison) in action

IPL Update

After a rollicking series of matches that exceeded all expectations, the defending champions Rascals are leading, sitting comfortably at the top of the points table. They, along with the Rebels '09, Admin and Lethal Warriors are through to the quarterfinals, having won both their League matches. The other four quarter-finalists will be decided this weekend, when the remaining league matches will be played. Let the Games begin, and may the best team win!

For more updates about the IPL, check out tiny.cc/sentience.

Boom Boom Bang

Chaitanya Afle

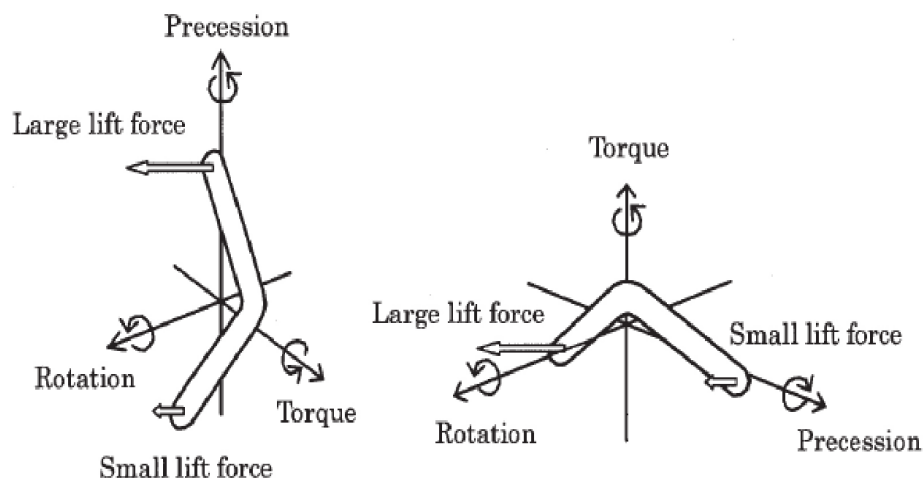
Ever wondered why a boomerang comes back? A normal stone thrown would traverse a parabolic projectile, but this crescent-shaped rigid body comes back to you - as if someone in ancient times summoned a djinn and asked him to make all the boomerangs go back to the thrower and startle him! Surely there is more physics to all this.

To understand what exactly makes a boomerang come back, we must first appreciate the very important fact that it is a rigid body, and not a point particle. This allows it to have moment of inertia along all three Cartesian axes, and thus it can make rotations about them. It is basically a bent stick in the shape of a "V". Also, not every boomerang thrown will come back to the observer. Only the boomerang which is thrown such that the plane of the boomerang is vertical (i.e. the angular velocity given to it will be horizontal, leftwards to that of a right-handed observer) and the "V" of the boomerang points towards the thrower, will come back. It is understood that after throwing the boomerang properly, the following two phenomena occur - first, the boomerang turns towards the left and comes back to the thrower. Second, the boomerang's plane of rotation, which was vertical at the time of the throw, falls leftwards and becomes horizontal. All in all, a boomerang correctly thrown in a vertical plane by a right handed person will come back to him from his left side horizontally.

If a boomerang is thrown horizontally, it will rise up steeply and come back straight down. This is actually the same as vertical throwing - you just have to tilt your head to the right to realise this thing.

Now, what is responsible for these two rotations of the boomerang - turning to the left and rotation of its plane from vertical to horizontal? The answer is the very phenomenon that makes it possible for you to turn your bicycle - gyroscopic effect.

To understand the gyroscopic effect, consider a rapidly spinning top,



The Physics of a Boomerang

whose angular velocity ω is along the y-axis (vertical). Likewise, its angular momentum is L . If we rotate the wheel about the x-axis slowly with an angular velocity of Ω , after a time δt , the axis of rotation comes to new position, displaced by an angle $\delta\theta$ with the vertical. Since the major part of the angular momentum is due to the angular velocity ω instead of Ω , the magnitude of L remains the same, while its direction changes by an amount $\delta\theta$. Hence,

$$\delta L = L\delta\theta,$$

and the torque, which is the rate of change of angular momentum, will be given by,

$$\tau = \frac{\delta L}{\delta t} = \frac{L\delta\theta}{\delta t} = L\omega$$

Considering the directions, we get

$$\tau = \Omega \times L$$

This torque makes the wheel precess. This is somewhat counter-intuitive. A tilt in the axis should make the top fall down due to the torque created by gravity, but instead it starts revolving about the vertical axis and still continues to spin about the tilted axis.

The rapidly spinning boomerang can be thought of as a rapidly spinning top. The Ω in this case is produced by the difference in the lift forces that are created across the length of the boomerang. These lift forces are created due to the cross-section of the boomerang, which is shaped very much like an aeroplane's wing. These forces are directly proportional to the rela-

tive velocity of the boomerang's arm and the wind. We now notice that the boomerang is rotating (has an angular velocity ω) and is also moving forward (let's say at a velocity V). At a given instance of time, each of the two arms of the boomerang will have a linear velocity of magnitude ωl , where l is the length of the arm. But the directions of both the arms will be opposite. Also, the two arms will have a linear velocity component of V , in the same direction for both. So it turns out that the two arms have different velocities with respect to the ground (or the wind moving at a particular velocity), one having $V + \omega l$ and another having $V - \omega l$. Hence a difference in the lift force is created among the arms. This creates gyroscopic torque which makes the boomerang turn left and come back to the observer.

Similarly, another Ω is created due to difference in the lift forces across the front and the back of the boomerang. This time, the torque created turns the boomerang's plane and makes it horizontal till it reaches back to the thrower.

No need to summon the djinn anymore.

References :

1. Why do Boomerangs come back ? Yutaka Nishiyama.
2. Boomerangs, Aerodynamics and Motion, Felix Hess.

Janata on the Rajpath

Himanshu Badhani



Chashme-e-nam jaan-e-shorida kafi nahi
Tohmate-e-ishq poshida kafi nahi
Aaj bazar mein paa-bajolan chalo

Wet eyes and a restless soul is not enough
Nutrition deprived, concealed love is not enough
Let us walk in the market with shackles

Faiz Ahmed Faiz

22/12/2012: For the first time in history, Janpath was packed, right from India Gate to the North Block, surrounded by protestors, composed mostly of highly educated and independent youth. Even in a country where anti-government demonstrations are fairly run-of-the-mill, this was a change. The protest was not against any government or political ideology. This was a protest for justice. It was an appeal to the dormant conscience of the country in response to the most outrageous of crimes, the infamous Delhi rape case.

This was neither the first case of its kind, nor particularly rare. There are about 90,000 rape cases pending in the criminal courts, few of them over 10 year old, meaning more than 1 case each hour. And these are only the reported ones; in a country which shamefully denies a girl the dignity of a human being, an enormous fraction of such cases are not reported to the police, especially those cases from rural areas, where the issue is commonly subdued by the Panchayats for the sake of the so-called dignity of the community.

The capital itself has suffered more than its share of these crimes. What happened at the India Gate was an outburst of accumulated anger. An educated society has a longer memory, and it cannot be easily distracted. Mobilised and aware, it became greatly aware of its social freedom. Furthermore, the victims in many of the cases in the National Capital Region were from an independent and educated

background, the type to which a large fraction of Delhi youth can relate.

The national outcry propelled the police to solve the rape case within two days, and those guilty were put behind bars. But the crowd at the Janpath did not recede. Within four days, a helpline exclusively for women was launched by the Delhi Government, the case was assigned to a fast-track court, the Prime Minister assured the country that necessary amendments in the Constitution would be made to ensure stricter laws. All the demands of the protestors were accepted. Still, Janpath was packed for more than a week. What else were they demanding?

The reports showed that in about 70% of the cases the accused had no previous criminal record. And in a striking 30% of the cases they were close relatives of the victim. It is highly doubtful that laws with stricter punishments are going to change these pitiful statistics to a significant degree. The actual criminal is sitting within our minds, and it doesn't need a law amendment but a revolution. Shouting against the government and demanding the death penalty were just ways to show anger. Everyone knows that crimes will not be stopped by these.

Small sections of our society have developed enough to demand the right of social independence. An educated girl is smart enough to ask 'Why should I not be allowed on the streets after eleven? Let the boys be in their homes after ten! This will solve the

problem'. The argument is strong, but a significant part of the society is still not ready to answer this radical question. The high frequency of crimes against women is not a surprise. But what is new is the clash between the radical and the conservative opinions. This is the only way to reduce crimes against women, because what we really need are not constitutional amendments, but a complete change in our mind-set. We need to understand that one's dignity can never be stolen; it can only be given away. The way our media and society tend to at least partially shift the blame from the criminal to the victim clearly shows how medieval our thinking is. A revolution in our minds is required to throw away the stereotypes that we have devolved to. The seeds of this social revolution must be laid into the deepest foundations of society. The concepts of self-dignity, equality without discrimination based on sex or caste, respect for individual rights, etc. need to be inculcated since birth - there is no alternative to education. We need to learn and teach what 'respect' means and have an open mind.

The revolution that I am talking about will take a very long time because it requires educating everyone, yet I call it a 'revolution' because it requires breaking thousand year old shackles. We may not be free from the shackles, but as has been suggested by the great poet Faiz Ahmed Faiz, it is not enough to have restlessness in your soul; you need to walk with those shackles in the market.

Truth is relative. There was a time when, ages ago, man was making his first discoveries and then people believed in absolute truths. Of course, fire was an absolute truth, it burnt things down. Language was an absolute truth, you could hear it and speak it. As discoveries became more abstract, their reliability also decreased. In ancient times, everything was fuzzy. The common man was a philosopher and also a scientist. As time flowed on, people drifted apart to a point where a common man, a philosopher and a scientist are almost different species (going by the definition ruling out interspecific fertile breeding). The common man has remained a naive believer in discoveries and science, but truth now, for the scientist, is relative.

With the common man's absolute faith in the commonplace statement 'as proven by scientists', the likes of us have a staggering responsibility on our shoulders. Scientists need to be careful that they publish and broadcast only those truths that are exceptionally high in the relative truth scale. Say in pharmaceuticals, the power of truth lies in the hands of the statistician, the chemist and the pharmacist. The chemist designs and synthesises the drug, the pharmacist runs the clinical trials and the statistician interprets them. Statistics being a bunch of highly believable lies, a little play of chance would reflect positively in the t-test of the clinical trial and bam! The drug is available in your local store. The unsuspecting common man with a mundane headache buys this drug overlooking the probabilities of him contracting a milieu of exotic disease conditions (all mentioned in E. coli-readable lettering in the cover). The $p < 0.05$ property of truth is quite unnerving! Consider that a population of ten thousand consumes the drug. It is likely that 500 of them contract one of these diseases. In an exploding country like India, $p < 0.05$ makes no sense whatsoever in the absolute scale.

Some of you might argue that ethics are not in question in such cases and that what people believe, or not, is

their choice. Of course, we cannot embark on a crusade converting non-believers to Pastafarians. However, it would be of value if the scientific community considered the relevance and usefulness of their research. Peeking into the future, the current composition of the prospective scientific community looks like a gathering of confused souls driven by nothing else but boredom from virtual games and fantasy fiction to do science. It may not be wrong to surmise that of the existing scientific community as well. Since most scientists are overgrown gamers, it is sometimes non-intuitive that a person does not actually have three lives to spare. Naturally, ethics tend to be a little loose.

“Most scientists being overgrown gamers, it is sometimes non-intuitive that a person does not actually have three lives to spare. Naturally, ethics tend to be a little loose...”

The philosopher has argued greatly (and to no avail) the need of ethics in the scientific community and also proposed a general structure. Traditionally, the philosopher puts a check on the scientist, preventing him from doing absurdly unconventional experiments and 'science for the sake of science'. In turn, the scientist adds the need for practicality and logic in the philosopher's arguments. Growing up, most of us have been through the rebellious activist stage chanting 'No animals should be harmed in experiments' and 'Down with GM plants' fervently. It seems immature and impractical, looking around in the shoes of a wannabe scientist. Sure, lab mice will be useless in the wild and broiler chicken are a little thick in the head. Many more ethical issues are pertinent to us in the role of a scientist, mostly in dealings with others of our own

species. The scientist may have the right data and the right analysis, but is it really his own? How many people who toiled for it deserve the credit? Is it okay to tweak your results a little bit if you know where you are headed? Is Photoshop the choice weapon of a Biologist? The answers to many of these questions are as grey as London skies.

The United Nations, recognising the need to set well-defined boundaries on research and publishing commissioned the World Commission on the Ethics for Science and Technology in 1998. This Commission deals with complex issues, mostly incomprehensible and not in the purview of a regular scientist. On a smaller scale, the IISER Biology Department holds a workshop each year for its young researchers to be familiar with the dos and don'ts of research and publication. Though these are vastly informative and quite commendable, this is lost on many students. It also seems as though the other departments are not as concerned about the ethics maintained by its students. Let me point out that a genius in Theoretical Physics or Mathematics can get away with practically anything since most of her contemporaries would have no idea what she is talking about. Research ethics are, therefore, supremely relevant in even Physics and Mathematics. It is strongly recommended that the other departments conduct such workshops for promoting publication ethics for their students as well.

Life seems simple when you don't need to worry about the number of publications per year and the awards you receive. In a short while, though, things will turn around and you will have to conform to some regulations and fit to your institute niche. Sometimes, when you are pressed for results, you may feel that fudging some or borrowing someone's data is quite justified as desperate measures. Bear in mind that no good will come of it (save a Nobel Prize, sometimes) and we lose credibility in the face of those who trust our results the most, the public.

Rarang Dhang

Prachi Atmasiddha

Life gives us unforgettable and astounding experiences, but it is undeniable that these experiences teach us a lot.

Prabhakar Pendharkar conveys a similar idea through his novel, Rarang Dhang. This is a story about a courageous civil engineer Vishwanath, who accepts the challenge to work with the army to build a road for the army troops in Rarang Dhang, a steep mountain range in the Himalayas.

The protagonist believes in the right to think independently and faces difficulties when he starts working under a dominating Army officer who can't bear the 'bloody civilian'. It also deals with the rigour and discipline in the army and how foul play within the system affects the quality of their work.

The story triggers our emotions when the army camp is divided on deciding who is right. Is it the of-

ficers who are under the pressure of completing their work before the deadline, or is it the workers, who toil day and night and sometimes even endanger their lives in unexpected incidents, like landslides in the Himalayas.

Vishwanath falls in love with the beauty of the snow-clad mountains of the Himalayas, with the river Satluj roaring in the thought-provoking silence of the night that forces him to reflect on the truth - that there is a thin line between life and death, and death is ever ready to pounce on those who cross this line.

The author has cleverly written about the conflict between the rules of the army and rational thinking of a common man. The story may seem slow-paced but the issues raised and the thrilling incidents makes this novel one of the best in Marathi literature.



A Game of Thrones

Sahana Srivathsa

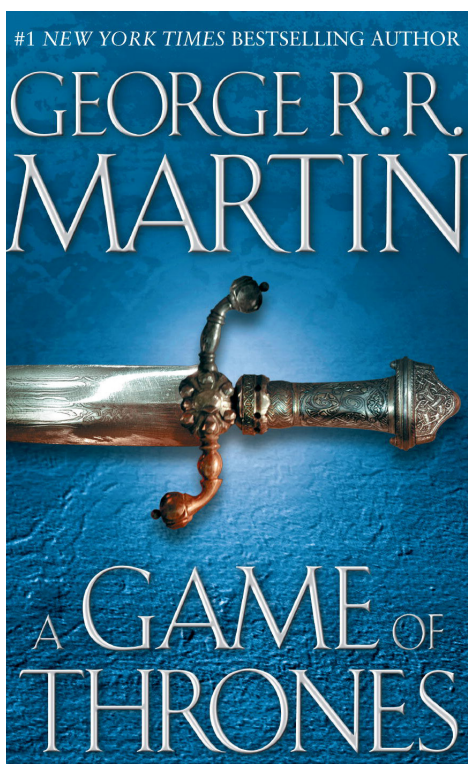
Having heard literary fanatics hail George R R Martin as the next J R R Tolkien, I was intrigued. So I picked up 'A Game of Thrones', the first book of the series 'A Song of Ice and Fire'. At the heart of the story lies an epic battle for power, between noble houses throughout the continent of Westeros, spiced with betrayal, love, death, suspicion and political intrigue.

Though the series enters the genre of fantasy literature, set centuries ago, this book mainly delves into the strife and political power-play afoot in the continent.

Ned Stark, Lord of Winterfell in the north, has been summoned, much to his dislike, to be the right hand man of his old friend, King Richard. Splitting his family, Ned, along with his daughters, travels to the capital where he faces strong opposition from the queen and her brother, Lord Lannister, who are fighting for

control of the throne. He discovers a labyrinth of secrets, each more explosive than the previous one, and he finds his own reputation and life at stake. Meanwhile as an interesting sub-plot we learn of the life of Daenerys Targaryen, who was forced to flee when Richard overthrew the Targaryens. As Ned struggles in the capital, his bastard son has another adventure far to the north, beyond The Great Wall where unknown forces are stirring.

The storyline is woven with intricacies which are well complemented by the stupendous pace and innumerable twists and turns. The elaborate detailing of the plot as well as the mercenary attitude of the author towards death, plunder, rape and treachery, makes it remarkably realistic and shockingly believable. Martin's creativity and skill leave you running to pick up the next book, 'A Clash of Kings'.



PRESSION

Be Grateful to the Mess, I Say

Darshini R



The mess is the one place we spend a lot of time in - usually thrice a day, laughing and talking with our batchmates and friends as we fill our bellies. Our mess at IISER is a good one, and compared to those of other colleges and universities in India, a stellar one.

We get soft, fluffy *rotis* every meal. Compared to the IITians, who (des)cribbed the food that they get, and we quote, as “Cannonball *idlis* and bullet-proof *chappatis*”. We have well-cooked, moist but not porridge-y rice, tasty *dal*, and variety! We get two *subjis* per meal, and most days they are non-oily, do not have excess masala, and have actual vegetables in them.

We get really popular gravies regularly; plenty of *paneer*, *kofta*-type curries, and enough greens. Every week or so, we are treated to delicacies like a chinese spread, *pav-bhaji*, or *chole bhature*. And every holiday and on most Sundays, they throw in a sweet as well: *gulab jamuns*, various kinds of *kheer*, and fruit custard (though the last one seems to be on hiatus).

In case you do not have a taste for the good old Indian breakfast or are simply running late for a class, you always have the option of sneaking in some bread (toasted AND untoasted), butter and jam. Many have complained about the lack of variety in the

breakfast buffet, but what more do they want? Croissants and crumpets? Perhaps some imported Earl Grey?

Special mention must be made of the curd they provide on most nights, a bliss, especially for the South Indian community, unless it is replaced by the dreaded *boondi raita*. It is the thickest curd many of us have ever had, so thick it could pass for ice cream. Some former curd-haters have been converted solely by the divine ambrosia that is the curd in our friendly neighbourhood mess.

Now that we’ve waxed eloquent about how wonderful the mess is, and how people who gripe ungratefully and unfairly about it should take a hike, it’s time to look at ways it could improve, and the current problems it faces.

“Special mention must be given to the curd, a bliss, especially for the South Indian community ...it is the thickest curd many of us have ever had, so thick it could pass for ice cream...”

Non-vegetarians, though they appreciate the quality of the vegetarian food, miss their meaty favourites quite a bit. Many say that they’d like better quality dishes on Wednesdays and Sundays. In addition, since the spring semester began, people have been noticing a dip in quality from the last semester. While the ‘fancy’ curries are still as good as ever, the not-so-popular ones have been made more watery. The curd has not been properly set on most occasions, and on some days it is quite sour.

Another major gripe that people have is with the new system of ₹40 curries being sold at mealtimes. It’s a good thing for non-vegetarians, as they get more of the food they like, but at the same time, it’s unfair. People pay the same amount for these tiny dishes as they do for their whole buffet meal. Some popular *subzis*, like the *paneer burji* that the mess used to make, have also been moved to this category. Coupled with the slowly deteriorating quality, it seems like people are being forced to pay extra (and a considerable amount) for items that used to be part of the standard fare while the mess makes a profit.

One thing that makes us wonder is why they don’t open the third counter at the far left of the mess hall every day. If it is a manpower issue, we would get it, but wouldn’t opening it all the time make lines shorter, and render it easier for both the mess staff and students to go about their business?

And for the praeternaturally lazy amongst us, the canteen at the New Hostel is happy to supply us with all our snacks, at somewhat inflated prices that we happily pay. Most value the convenience of having the food at their immediate disposal, rather than after a 150 metre hike, to be worth the extra price.

All said and done, we’re proud of our mess and happy with the food they give us, and think everyone should be, too. To end our rant, we’d like to note that even if the food were terrible, it’s unacceptable to see so many people waste so much of the food on their plates. Considering how more than half of the Indian population doesn’t get even one square meal a day, stop the fussing and wasting. Please, everyone, judge how much you can eat correctly, and make sure that minimal food goes into that green bin.



PRESSION

Love in the Time of Curfew

Aniruddh S

This is outrageous and blasphemous. I have just realized that a premier Institute of science in India has a common parking space for vehicles belonging to guys and girls. What does this mean? Guys and girls can be in close proximity for the time it takes to get one's vehicle out of the parking lot and drive away. I think this is something that cannot be tolerated at all. What sort of values and cultures are we teaching the "children"?

When asked about this the authorities have said that in a co-ed Institute these compromises have to be made. In fact, they added that girls and boys actually sit together during classes and are allowed to eat food together as well.

But what the authorities do not seem to realize is that studying and eating (the mess food is hardly conducive to romance) are sacred activities and there is no way that boys and girls can be involved in any sort of inter-sex cross-gender hanky-panky during those hours. Moreover, isn't it known that these activities are going to happen only in the night and not during the day (hormones, clocks and the romantic moonlight at midnight)? I have always been told that I shouldn't be spending a night with a person of the opposite sex. While in parking lots, which are open all night without moral policing, there is a high chance of activities which can tarnish the image of an Institute of national importance. It is another matter that we are nit-wits who think that the reputation of an Institute is going to be linked to how the students perform in a parking lot as opposed to the labs and classes (no pun intended).

There are some figures of authority who have taken it upon themselves to maintain the cross-gender social decorum of students. I understand that this may be due to the insistence

of parents who seem to be absolutely sure that the amount of control they maintained on their wards was so strangulating that the moment they let kids out of their sight, they are going to indulge in hand-holding (bring out the pitchforks !) with a person of the opposite sex. I completely agree that it is ridiculous for students to hold hands as soon as their parents turn their backs on them. People, there are a lot of other things that can be done. Either way, what I do not understand is why an Institute has to take up the responsibility of maintaining the virginity of its students? Anyway, I am just wondering what sort of person actually thinks that there is only one reason for guys and girls to spend time together. I am a guy, and I am sure I am not the only one who gets an absolutely fresh perspective when I talk to women. I am certain that there is no way a guy can inherently have some points of view if he is not exposed to them by a girl. And because I have spoken to girls, I also know that talking to guys gives them a better world view.

Anyway, I digress into logical reasoning. This is absolutely intolerable. We should have different parking lots and hostels for girls and boys. This is the only way that our Institute can maintain its stature as a premier institute of the country. More pertinently, this is our culture. People of different sexes are supposed to remain apart as much of the time as possible. This will help the students dedicate more time into more meaningful things. Also, it helps maintain our population. Oh, wait a minute...bad example.

Disclaimer: Almost all the facts in this article are made up while there are a few approximations that are accurate. However, the sentiment expressed is genuine but the sentiment that I wanted to portray may not have been accurately portrayed.

Foodie Corner

ANURAG AGRAWAL

On a cold windy night, a sudden wish to gorge on freshly prepared egg can be fulfilled at the Reshma Burji Centre on BMCC college road. This place offers you a unique variety of egg dishes at unbelievably low prices.

The menu lists the dishes in two categories - 'dry dishes' and 'gravy dishes'. Among the dry dishes, the conventional egg *burji* is good, but the egg mughlai is the most beloved item on the menu, as it's a speciality of the place. The gravy dishes have a list of amusing names, which include '*Anda takatak*' and '*Anda chingari*'. I strongly recommend *Anda chingari* with *pav*, which is a spicier version of *pav bhaji* topped with boiled eggs. '*Anda parantha*' is another dish worth trying.

Even with the variety this place offers it sticks to its motto of serving food at reasonable prices. A plate of '*Anda Parantha*' costs ₹30, and half plate of '*Anda mughlai*' is ₹40. Irrespective of your appetite, your expenditure will rarely exceed ₹100. Sadly, this egg heaven does not deliver at the doorstep. But thought it sounds distinctly unprepossessing to the fastidious, it is worth getting out of the hostel to sample these delights.

CONTACT

Address Reshma Burji
Centre,
BMCC Road
Pune