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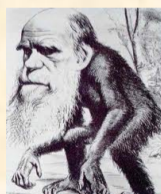
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## IISER Celebrates Its First Foundation Day

On the 30<sup>th</sup> of March, the entire IISER family was in a festive mood as we celebrated the first foundation day. The legendary chemist - Prof. C.N.R. Rao graced the occasion with his presence. He delivered a lecture and also inaugurated the new chemistry block.

It started off at 3:30 p.m., with Bedartha and Shambhavi, the compères, welcoming the gathering and talking about the dream which was realised five years ago - IISER which has now grown into an institute with 450 odd students and has its first batch graduating this year as the flag bearers of the institute.

Then, a video clip of the Prime Minister of the nation, Dr. Manmohan Singh, was played. It took everyone back to the memorable day a year ago when he had laid the IISER foundation stone.

The chief guests Prof. C.N.R. Rao and Dr. T. V. Ramakrishnan were welcomed with bouquets. It was followed by the Director's address to the audience which included the Board of Governors, the staff and the students. Prof. K.N. Ganesh spoke about how IISER started with just 50 people and how it has now grown ten-fold. He reminded us of the ideals of IISER and also

commented on the state of the art equipment in our research labs.

Prof. C.N.R. Rao was then introduced to the gathering by the Director. His speech was on 'Inspiration and Intuition: a story of science'. A powerful speaker with a strong passion for science, he easily had everyone's full attention. He talked about how teachers should be able to inspire students. His speech was peppered with several examples from the history of science and exciting short snippets from the life of some great scientists. The speech was short but stimulating.

It was followed by a short talk by Dr. T.V. Ramakrishnan who



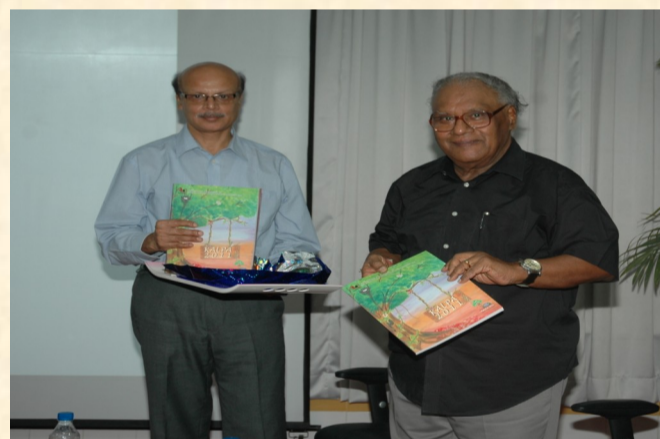
*Prof.C.N.R.Rao inaugurating the new chemistry block*

IISER family on its exponential growth.

Then it was time for the much awaited moment - the release of KALPA 2011. Krithika Mohan, one of the editors, spoke about the effort that went into the mak-

sing of the annual college magazine, which represents the diversity of thought and ideas of the students at IISER. It was officially released by Prof. C.N.R. Rao. Then appreciation awards were given off to the administrative and other staff. Dr. Sutirth Dey was awarded the Best Faculty award. The function concluded with the singing of the National Anthem by the gathering.

The group then dispersed for the inauguration of the new Chemistry Laboratory Block - Mendeleev Block. A sapling was planted by Prof. C.N.R. Rao in front of the block. It was followed by the formal inauguration ceremony and then a look inside the new laboratory block. The foundation day celebrations ended with high tea.



*Release of KALPA 2011*

reminisced about the early days of IISER and complimented the

## The 'MahaMini' Convention

The SPIC MACAY Maharashtra convention was held at IISER Pune and NCL from 11<sup>th</sup> to 13<sup>th</sup> of March. The atmosphere here at IISER Pune was rife with excitement over organising the state convention, which saw volunteers from Pune and all over Maharashtra spending three days immersed in rich Indian culture. The convention was graced by the presence of Dr. Kiran Seth, Founder-Chairperson of SPIC MACAY, who presided over the convention. He talked about how the youth could lend a hand in reviving Indian heritage and culture. He offered his views and opinions for the betterment of the movement in a small press conference prior to the beginning of the convention.

The convention was inaugurated on 11<sup>th</sup> March in the eve-



*Hindustani Flute Concert @ NCL Auditorium*

ning at the NCL Auditorium with a scintillating flute concert by eminent flutist Pt. Rajendra Kulkarni. He was accompanied by Shrikant Bhawe on the tabla.

The programme for the following day started off at 5

o'clock in the morning with rigorous yoga sessions with Dr. Kiran Seth and fellow volunteers. The early morning hours were spent with Dr. Seth taking the group through every detail of *nadayoga*, from the *Surya*

*Namaskara* to the various *aasanas* to the *riyaz* of musical notes.

Introductions were the order of the day - volunteers talked about how they came across SPIC MACAY, what made them become a part of it and how their experiences had been so far. Dr. Nagaraj Balasubramanian, who headed the University of Virginia chapter of SPIC MACAY before coming here to Pune, had some very interesting experiences and anecdotes to share with everyone. He also gave a lot of new ideas and useful suggestions. Siddharth B Iyengar, student president of the IISER-NCL chapter, played an important role in guiding and organising the convention to success.

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## Academic Buzz

### Conferences in India:

1. Second India-Taiwan Conference on Discrete Mathematics, 8<sup>th</sup> to 11<sup>th</sup> September 2011.

Organised by Department of Mathematics, Amrita Vishwa Vidyapeetham, Coimbatore. Email: itcdm@amrita.edu

2. 2<sup>nd</sup> International Conference on Stem Cells & Cancer, 15<sup>th</sup> to 18<sup>th</sup> October, 2011.

Web: www.isquareit.ac.in/NEWS+ROOM/Announcements/ICSCC-2011/index.aspx

3. 4<sup>th</sup> International Congress of Environmental Research (ICER-11), 15<sup>th</sup> to 18<sup>th</sup> December, Surat.

Web: www.icer11.jerad.org

4. 16<sup>th</sup> International Workshop on the Physics of Semiconductor Devices, December 19<sup>th</sup> to 22<sup>nd</sup>, 2011.

Web: www.iitk.ac.in/iwpsd2011/reg.htm

### Correction:

In the news report *The Rascals Triumph in IPL2011* (March issue), the second person from the right on the bottom row of the Rascals' team picture, wrongly identified as Abhishek Singh, is in fact Abhishek Kumar. We deeply regret the mistake.

## Professor Terrence Deacon Visits IISER Pune



Professor Terrence Deacon

Professor Terrence Deacon, the famous American anthropologist visited IISER Pune from 20<sup>th</sup>-22<sup>th</sup> March.

He is currently Professor of Biological Anthropology and Neuroscience at University of California, Berkeley. His research combines human evolutionary biology and neuroscience, and aims at investigating the evolution of human cognition. He is author of the famous book "The Symbolic Species: The Co-evolution of Language and the Brain".

He gave three talks at IISER Pune during his two day visit. His first talk, titled '*Answering Wallace's riddle: How evolution achieves hierarchic*

*complexity*' was held on 21<sup>st</sup> March at HR4. In this talk, he elaborated on Wallace's argument that selection is insufficient to explain the complexity of brains and languages. He presented a well-laid out and comprehensive talk on how epigenetic factors and relaxation in selection pressure are critical in the evolution of complex synergies.

His second talk, titled '*How can a molecule come to be about anything? Origins of life and meaningful information*' was held at noon on 22<sup>nd</sup> March at Raman Hall. During the course of his talk, he explained how most information, including biological information,

doesn't have any reference to being about anything. He also said that information, if reconsidered in terms of entropy, work and self-organization processes, can connect basic chemistry to molecules that contain information 'about' their own conditions for existence. This could also point towards a critical precursor stage leading to life.

His third talk titled '*Symbols aren't simple: How the code analogy misrepresents language and thought*' was held on 22<sup>nd</sup> March at 4 pm at Raman Hall. He talked about the two divergent meanings of the term 'symbol' in different disciplines. He discussed how symbolic reference is differentiated from iconic and indexical reference. He also discussed about a number of linguistic and nonlinguistic examples that are used to demonstrate the dependency of symbolization on iconic and indexical phases of interpretation, and how this is relevant to universal constraints of sentence structure thereby demonstrating that there can be universals of language that derive neither from nature nor from nurture.

## IISER Pune Hosts ISME Conference

IISER-Pune along with NCL and the Centre for Materials for Electronic Technology (CMET) organised the International Symposium on Materials Education (ISME 2011) from 26<sup>th</sup>-28<sup>th</sup> March 2011. The symposium was held at Yashada, Baner. It was sponsored by the Materials Research Society of India (MRSI).

For the first time, this symposium was organised in India as there is a strong base of materials science

and nanotechnology here. The symposium had twin objectives – to popularise the subject among under / post graduates and young researchers as well as to bring the latest research to the Materials Science and Nanotechnology pedagogy.

There were about thirty invited lectures, thirty oral presentations and seventy poster presentations. All presentations will be published in International Journals of Materials Education (IJME).



## The 'MahaMini' Convention

Continued from Page 1

As one of the most active volunteers of the chapter, he too had many experiences to share.

An interactive afternoon session took place between students, educationalists and corporate heads. Although from various parts of Maharashtra such as Mumbai, Solapur and Pune, they were united by the collective urge to revive Indian culture. A screening of documentaries on some of the greatest artistes from India was held. Among them were interviews of legends like Pt. Hariprasad Chaurasia, Pt. Shiv Kumar Sharma and Bismillah Khan among others, which gave an insight into some great forms of art in our country. Dr. Seth, who conducted the



Dhrupad Recital @ IISER Multipurpose Hall

screening, cited the case of the *Rudra Veena* – once considered the king of all musical instruments; it would soon become extinct if not nurtured by today's youth.

The same evening saw the IISER Multipurpose Hall being filled with the heavenly aura of music as Pt. Uday Bhawalkar sang Dhrupad, one of the toughest forms of Hindustani classical music with the accompaniment of the intoxicating rhythm of the *Pakhawaj* played by the famous Pt. Manik Munde.

The post-concert interaction with Pt. Uday Bhawalkar left the crowd mesmerised by the depth of Indian classical music and culture. The exciting day came to an end with volunteers socialising over the dinner table and then going

for a walk around the campus.

The final day of the convention began with another session of *yogasana*. It was followed by a discussion on how the volunteers had to progress as a team. Allotment of important tasks for the volunteers to carry out was done by Dr. Seth. The convention came to an end with his message to the youth - to contribute one tiny drop to spread the movement.

This state convention was a great opportunity to meet inspiring people and filled the volunteers with enthusiasm and admiration. They are now looking forward to the big event- The National Convention 2011 which will be held at Ravenshaw University in Cuttack at the end of May.

## Bug Of The Millennium

**Y**  
**2**  
**K**



**B**  
**U**  
**G**

In the primitive IT age (in the 50's - 60's), when memory space was a commodity to be cherished, a relatively useless thing like the first two digits of the year was considered an unnecessary memory-occupying luxury. Practically all applications and programs stored dates using a six-figure convention like 01/01/56.

Even after space was no longer a constraint, the practice continued mainly because any new software packages had to be compatible with the older versions. This went on to become a convention everybody followed, like the QWERTY keyboard. To be fair, no programmer imagined that this would lead to any problem in the future. The millennium,

after all, was decades ahead. Surely, any program would remain in usage in the same form for no more than 3-4 years at the most.

The upshot was, by the time the 90's came around, the two digit year syntax was embedded fathoms deep in all the softwares of the world. The niggling back-of-the-mind thought of the 80's, that it could possibly be an issue, became a full-on headache of the 90's as the implications finally came to the fore.

All computers would read the date from January 01, 2000 onwards as the year 1900 onwards. So if an amount was to be deposited yearly from 1998 to 2000, the program would crash, as it would make payments indefinitely. This is the simplest scenario for what came to be known as the Y2K bug.

This bug, though very simple, had immense catastrophic potential mainly because of its widespread nature. It could lead to hardware failures in main-

frame computers used in banking, utilities systems, government records, airlines, telecom etc., leading to widespread chaos from 1<sup>st</sup> January 2000 onwards. Imagining the ensuing chaos probably made more than a few heads roll. It was roughly estimated that up to 600 billion dollars could be the cost of making these systems Y2K compatible by changing the date format.

The humble PC, on the other hand, was unaffected. For it, the Y2K was just another of a thousand bugs to be dealt with every year.

### Impact on India

For many countries it looked like a ticking bomb, but it came as a boon for the IT companies in developing nations like India. Powerful countries facing potential disaster, suffering from a lack of manpower and time to completely ferret out the bug before it struck were

easily persuaded to hire fledgling companies like Wipro & Infosys to make their systems Y2K compatible. The Indian companies' success in delivering these projects in a cost-effective manner acted as a powerful catalyst for the growth of the Indian IT sector. Many Fortune 1000 companies discovered that moving their application maintenance and ongoing development activities to India was a viable and attractive option. This was a small and critical factor rarely mentioned while discussing globalization in India in the 90's.

Finally when the big day came, most companies switched off their main computers and put the backup computers on work. As the clock ticked past 11:59 p.m. on December 31, 1999, no major problems were reported. Almost every bank worked fine, no major power outrages were reported, airplanes still flew (most of them, some airlines chose to cancel all flights on the 1<sup>st</sup>) and the whole world went on with its normal life.

## For The Stargazer

One of the most familiar patterns in the sky, the Plough (Saptarshi), lies almost overhead in April evenings, with the majestic figure of *Leo* (the lion) in the east. Yellowish-red Arcturus in *Bootes* (the herdsman) denotes the start of spring in the northern latitudes. Add to this, a real treat of the constellations *Cygnus*, *Crux*, *Centaurus*, *Scorpius*, and last but not least, *Sagittarius*.

### The Constellations

The Plough in *Ursa Major* helps greatly in locating other important stars and constellations in the night sky (refer to the March write-up). At 10 p.m. in mid-April, the faint stars of *Hercules* (the hero) shimmer in the north-east, with the bold figures of *Bootes* eastwards, and *Virgo*, further east. Regulus in *Leo* reigns high above *Bootes* in the eastern sky. The pattern of six stars marking the lion's head and chest form a distinctive hook shape, known as the Sickle. The south-east is occupied by the sprawling figure of *Hydra* (the sea monster), which despite its large size, is hard to notice due to the faint stars. Its brightest star Alphard, can be seen to the south of Regulus, with the naked eye.

The summer constellations of *Cygnus* (the swan), *Lyra* (the lyre) and *Aquila* (the eagle) rise at about 2 a.m. on the north-eastern horizon. Deneb in *Cygnus*, Vega in *Lyra*, and Altair in *Aquila* (the three respective brightest stars) form what is known as the Summer Triangle. Although not as symmetric as its winter counter-part, the Summer Triangle helps in locating a few important constellations. *Cygnus* depicts a flying swan, and situated at its beak is the beautiful yellow-blue double star Albireo (nicknamed "Topaz and Sapphire"). The Milky Way passes through *Cygnus* and east towards *Aquila*.

Moving towards the south, one finds the rich constellation of *Crux* (the Southern Cross) nestled amidst the legs of *Centaurus* (the centaur). Three of the four stars in *Crux* can be readily identified on a clear night. One can also see, through a small telescope, the Coal-Sack, a dark cloudy patch to the right of *Crux*. Rigil Kentaurus (or Alpha Centauri, the brightest star in *Centaurus*) and Hadar (Beta Centauri), form the forelegs of the Centaur and point towards *Crux*. *Centaurus* contains

*Omega Centauri*, one of the oldest, densest, and the best globular star clusters in the sky. To the naked eye, it appears as a fuzzy, starry patch while a small telescope brings out its beauty in satisfying detail.

At around 4 a.m., the southern skies are center-stage for the magnificent zodiacal constellations of *Scorpius* (the scorpion) and *Sagittarius* (the archer). These two constellations contain a treasure trove of star clusters, nebulae, along with the faint band of the Milky Way. Antares, the brightest star in *Scorpius*, is a red supergiant. M4, M6, M7, and NGC 6231 are star clusters in *Scorpius*, easily noticeable through a pair of binoculars. *Sagittarius* contains The Teapot, an asterism which resembles the Plough turned upside-down. This constellation contains a total of around fifteen Messier objects. Worth mentioning amongst them are the Lagoon nebula, Omega nebula, Trifid nebula, and M22, a fine globular star cluster, sometimes visible even to the naked eye, on a dark night.

The constellations of winter, *Canis Major*, *Orion*, *Auriga*, and *Gemini* now linger on the western horizon. The small figure of *Cancer* can be spotted high up in the sky, housing the Beehive cluster (M44).

### The Planets

Saturn resides in *Virgo* and is observable throughout the night, i.e. from sunset to sunrise. Venus on the other hand, continues rising at 4:30 am in the morning and is strikingly visible in the south east, till sunrise. Venus makes its transition this April into *Pisces*, from *Aquarius*. Mercury, Mars, Jupiter and Uranus are in *Pisces* and difficult to observe due to the fact that the Sun too is moving into *Pisces* this month. However, these planets will continue to rise earlier than the Sun as the month progresses.

In the last week of April, the five planets Mercury, Venus, Mars, Jupiter, and Uranus, crowd together in *Pisces*. Saturn (in *Virgo*) and Neptune (in *Aquarius*) are also nearby. A good pair of binoculars can help see all of them, towards the south-east in the early hours of dawn.



The Summer Triangle



Sagittarius and Scorpius



Crux and Centaurus

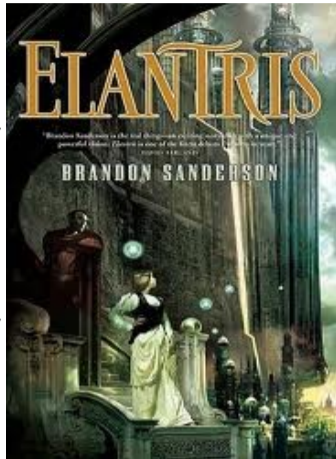
## Off The Rack...

## Elantris

Ten years ago, Elantris, the capital of Arelon, was a magnificent city of Gods, and ten years ago, it fell. It is now a city of the damned; the God-like Elantrians reduced to tortured souls, without escape from their pain...

An engaging book of fantasy, Elantris is the story of the Elantrians, Arelon, political upheaval, religious conflict and war. Raoden, the prince of Arelon, is suddenly stricken with the same curse as Elantris, and he is forced to join the pitiable

Elantrians. Even as Raoden struggles to rehabilitate the Elantrians and explore the deep secrets of the once powerful city, Sarene, his betrothed and now his wife fights a political battle in Arelon.



The situation worsens as Hrathen, the chief priest of the mysterious religion Shu Dereth, begins his task of converting Arelon-threatening its existence, as it was known to be ten years ago.

The epic story of Elantris, penned in a single volume by Brandon Sanderson, is a refreshing break from the better known books of fantasy written as a series of novels. Within a single book, Sanderson has trapped an unending storyline, complete with a cast of superbly strong characters and an enthralling narrative. While this review sounds clichéd, the book is definitely not - not what one expects from a debut novel!

V SAUDAMINI

## Dr. Tatiana's Sex Advice To All Creation

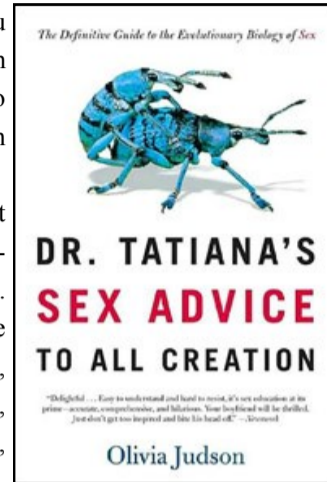
SHREYA RAY

It's a compelling read into the beautiful and complex sexual intricacies in living beings, ranging from leaf insects to lions. Right off the bat, the book draws you with a letter from Twiggy, a stick insect to Dr. Tatiana, annoyed with her insatiable beau.

Judson, a biologist who studies the evolution of sex, is the Dr. Tatiana in the book. The fruit flies, sea urchins, stick insects, spiders, fish, birds, squirrels, confused with their sexual lives, send letters to Dr. Tatiana, who patiently attempts to answer all of their queries, patiently. You'll be amazed at the bizarre diversity of sexual acts and their consequences.

Buried in the answers, you might find some implication for us humans, who have been caught up too deeply in the snare of 'worldly' ambitions (well, that kind of competition too is subtly driven by sex anyway, as you will find out).

The book looks at how systems so biologically complex evolved, and in turn, how they created a society which they kept complicating in order to incorporate diverse strategies of competing for sex - for the purpose of genetic mixing. In Dr. Tatiana's words, "To a miserable organism sitting alone in a singles bar, genetic mixing might not seem worth the bother. Yet it is fundamental to the grand scheme of things."



## Are You Going To Hell?

According to a very popular SMS chain, no Nobel Prize is awarded for Mathematics because apparently Alfred Nobel's wife eloped with a mathematician. Since the Ig Nobel Committee has no such issues, they award an Ig Nobel Mathematics Prize every year. In 1994, the lucky winners were the Southern Baptist Church of Alabama. Their contribution - a secret formula that determined the percentage of people who would go to hell if they didn't repent!

These county-by-county estimates of all Alabama citizens were painstakingly produced by the Southern Baptist Convention's Home Mission Board. Like the derivation of any other mathematical formula, this one too made several assumptions. Some of the many biased assumptions were: in a given neighbourhood, nearly all Southern Baptists are already safe. Other Baptists and people in other denominations in the Church are not as certainly certified safe from hell - some are still saveable, while others have irreversibly blown it. Most of the Catholics are a lost cause. Non-Christians - Jews, Hindus, Muslims, atheists and all others who refused to accept Jesus - could be written off.



The secret mathematical formula (which is still secret to me, as I couldn't find it anywhere on the net) estimated the percentage of each religious group (Catholics, Southern Baptists, Episcopalians) that would go to hell. For this, they found out the percentage of each these groups living in counties of Alabama using survey data collected by another board, the Glenmary Home Missioners Board, Ohio. These numbers were fed into the formula. Estimates thus obtained are collectively known as the evangelistic index.

In their justification (which still doesn't account for the ingenuity and all the effort put in the process) the estimates weren't something to be celebrated. They served as a practical guide to point out which areas needed the church's scrutiny more than others and which areas weren't worth wasting time on. Like all other sales estimates, the formula was for the church's internal use and the world would never have known about it unless for Greg Garrison, a reporter from the Birmingham News. The newspaper published a front page article which stated: "More than 1.86 million people in Alabama, 46.1% of the state's population, will be damned to hell if they don't have a born-again experience professing Jesus Christ as their saviour, according to a report by Southern Baptist researchers." It is not known if the knowledge of this fact scared people into spirituality or became just another piece of pure entertainment for them. But the Birmingham News article was, to use a very clichéd expression, just the tip of the iceberg. The researchers, posing as measurers of morality, made estimates of hell-destined people in every county of the fifty American states! These figures have never been made public though.

If you have the time and the patience, you can calculate the religious breakdown of any place, too. Just collect numbers of all people of different faiths in your region and feed them into the formula. When you get the correct Unserved Souls Percentages (USPs), just put them in the given equation:

$$\begin{aligned} & ((\text{Episcopalians' USP}) * (\text{no. of Episcopalians})) \\ & + ((\text{Catholics' USP}) * (\text{number of Catholics})) \\ & + ((\text{Jews' USP}) * (\text{number of Jews})) \end{aligned}$$

KSHITI MISHRA

$$\begin{aligned} & + ((\text{Muslims' USP}) * (\text{number of Muslims})) \\ & + \dots \\ & + ((\text{Agnostics' USP}) * (\text{number of Agnostics})) \\ & + ((\text{Atheists' USP}) * (\text{number of atheists})) \\ & \text{-----} \\ & = \text{Total number of unsaved souls} \end{aligned}$$

Not only will you be able to calculate the religious breakdown for your selected place (I'm sure you'll have justifiable reasons to spend so much of time on it), but it also will definitely serve as a great exercise, I'm sure.

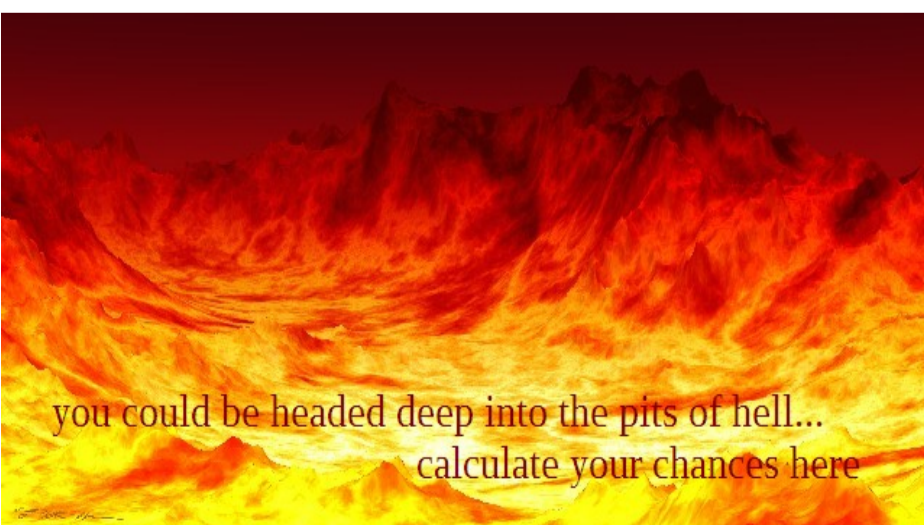
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- [2. http://improbable.com/ig/1994/1994-math.html](http://improbable.com/ig/1994/1994-math.html)

## Planting Switches

NEHA BORA

A light-activated switch from a plant has been inserted into cells to control cell growth or death, grow new tissue or deliver doses of medication directly to diseased cells. The two proteins from a mustard plant *Arabidopsis thaliana* were introduced into yeast cells, kidney cells and cultured rodent brain tissue. The two proteins interact under light to control cell functions and this interaction is reversible. The approach could be applicable for studies of cultured cells, yeast and also worms and fruit flies. This method could be used to test how cells affect neighbouring cells, to guide axonal growth or to kill cancer cells.



## Survival Strategies

Charity, philanthropy, unity - we associate these virtues to our present day, seemingly natural consequence of 'civilisation'. O human! Beholding this page with thy complex eyes and clasping it with thy opposable thumbs! You are here because your genes refused to be virtuous. Every genetic element exists with the single-minded (for lack of a better word) and selfish objective of ensuring self-propagation. And mind you, they won't hesitate to stoop to the lowest levels to get the job done.

If you thought that Indian politics was all selfish motives and power plays, wait till you meet the protagonist, the anti-hero - the B chromosome! *Nasonia vitripennis* is a haplodiploid wasp, meaning that the males are haploid with only one set of chromosomes while the females are diploid with two sets of chromosomes. The unfertilised haploid egg laid by the females develops into a male while the diploid and fertilised ones to females. The female wasps also have the rare privilege of sex determination by timely release of sperm from their spermathecae where it gets stored during mating. Provided the environment conditions are stable, the population remains fairly stable in terms of sex composition.



Image Credit: Jeremy Brasek and Seth Bordenstein, 2004

But hold that thought, this is no everyday story! Knowing the obvious selfish nature of genes, it is no surprise (much to the joy of the petty chauvinist) that daughter-killing factors are passed on from father to son; or more precisely, girl-turn-to-boy factors. Puzzled?

All is not well in the *Nasonia* zygote once the sperms attack and conquer. Under unexplained circumstances, however, the paternal chromosomes mysteriously self-destruct. The result is a haploid cell with only maternal chromosomes, which with a cruel twist of irony would develop into males! Further probing (no pun intended!) revealed an extra chromosome in the mutant males, unimaginatively called the B chromosome. This treacherous fifth columnist is held responsible for the cold-blooded murder of the complete set of its host and patron,

the male chromosomes! The *Nasonian* B chromosome plays a pivotal role in the disintegration of the paternal chromosomes sparing itself and the maternal chromosome. This guarantees its propagation from father to son through generations. Chauvinists of the world! Do not rejoice! For, this mutant can't take over the population as males alone can't ensure the survival of the species. All this said, it's no wonder that the B chromosome is dubbed as 'the most selfish genetic element known'.

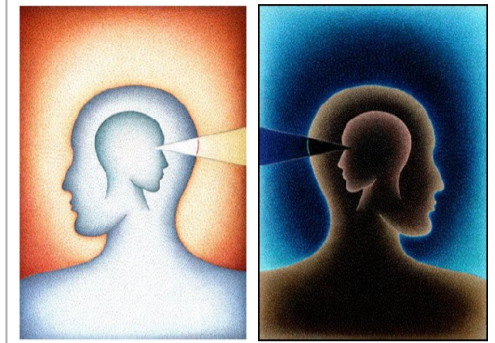
Nature has many more such self-centered elements. Probably that's the reason why the world exists the way it does today... Probably that's the reason Richard Dawkins puts it in *The Selfish Gene*, 'Let us try to teach generosity and altruism, because we are born selfish.'

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2. Dawkins, Richard (1976). *The Selfish Gene*. New York City: Oxford University Press

## Been There, Done That

SRAVANI S



I was staring into the sea, my feet dug deep in the sand. The sun was setting and there were people all around me. A strange feeling started building up inside me. Have I been here before? The entire scene seemed oddly familiar. This familiarity was uncanny, as I had never been to a beach before, ever.

Am I a weirdo?

Maybe not...

About 2 in 3 people have experienced déjà vu at least once in their lives. Déjà vu, a French term that literally means "already seen", relates to the sight, sound, taste or even smell of something which makes us think that we've experienced it before, although we know that we couldn't have. There are many theories which explain as to what causes déjà vu, ranging from reincarnation to memory lapses. The most popular theories are:

The incoming information is transmitted twice, once directly to the brain's left hemisphere and once again after its detour through the right hemisphere. If that second transmission is delayed, then the brain might put a wrong timestamp on that bit of information and register it as a memory from the past. This causes the sense of familiarity.

Or perhaps memories are like holograms, our brain can create an entire three dimensional picture from a fragment of the whole. Déjà vu happens when some detail of the environment is similar to a remnant of a memory of our past.

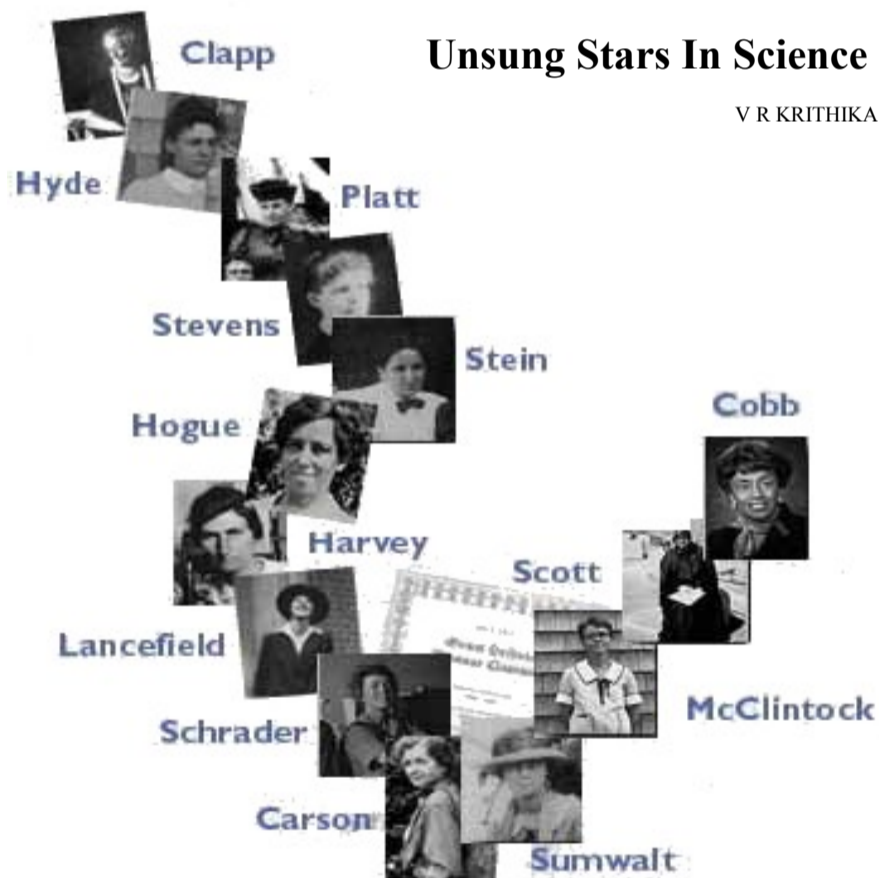
Alan Brown proposed that when we are distracted with something else, we subliminally take in what's around us but may not register it consciously. Then, when we focus on what we are doing, it appears familiar though it should not.

Another commonly-held opinion in the scientific community is that our brain, which has two different parts, one of which is associated with short-term memory and the other with long-term memory, can sometimes behave strangely when a perception of the present is incorrectly filtered and thus percolates to the region which stores memories of the past. As a result, the present moment seems like a past memory.

So, you haven't seen this article before, or have you?

## Unsung Stars In Science

V R KRITHIKA



The thought of the word 'scientist' first brings to our mind names like Einstein, Newton, Kepler and Watson. Rarely do the names of women cross our minds and even if they do, there are invariably a very few of them. Does this mean women were not involved in science or were incapable of thinking along relatively 'higher planes'? Definitely not. This has been a very sad misconception in the minds of people since time immemorial. Women were deemed unfit to set foot in the field of science and were forced to look after domestic duties. Despite this, some women dared to defy society, enter this forbidden area of science and fight their battles. Unfortun-

nately, recognition did not, or rather was not allowed to, knock at their doors.

Women have played key roles in making many important discoveries, inventions and proposing theories. From defence to astronomy and medicine to marine biology, they have made critical contributions, many of which paved the way for development of concepts applied in these fields today. Mary Huggins, Hertha Marks Ayrton, Sofia Kovalevskaya and Amalie Dietrich, to name a few, are some of the women who have done pioneering work in maths, astronomy, biology and other fields. Moreover, they have also donned crucial roles as translators, interpreters

and illustrators, which has had far-reaching implications in the research work of many other scientists. Without their assistance, many of today's theories may not have been conceived. As anyone would agree, many of these contributions have not been acknowledged. It is traumatising that much of their work has been largely undermined and they have not been given due credit.

Such discrimination was exercised not only at the research level but in basic levels of higher education where women were curtailed from engaging in higher studies. In the earlier days, they were denied a chair in the Royal Academy of Sciences and fellowship of Royal Societies - a few appalling reasons for their rejection being them not having a proper degree and their belonging to the class of 'women unmindful of their work'.

In the wake of the late 19<sup>th</sup> century, however, the situation began to improve with women being given the liberty to pursue higher education. They then began to revolutionise science and there has never been turning back. Women have proved time and again that they are equally (if not more) capable as men.

This had been the general scenario, not only in science, but in almost all venues of life. The present day world is radically different from what it was a few centuries ago and women today hold the reins in many domains. Many are leading scientists, entrepreneurs, doctors, philosophers, you name it. It is indeed a pleasant change that has dawned upon society and hopefully it results in the attainment of true gender equality in the near future.

# gene EXPRESSION



the students' corner

## Natural Selection

RAVINDRA P N

<p>1</p> <p>The journey that changed the field of BIOLOGY Starts here....</p>	<p>When Darwin boarded the Beagle he was a believer in the story of creation, but he was also a great naturalist</p> <p>2</p>
<p>3</p> <p>He made expeditions through different islands and finally he had stumbled upon GALAPAGOS Islands - the evolutionary labs of the planet</p>	<p>4</p> <p>EVERY NIGHT IN MY DREAMS I FEEL IT, I SEE.....</p>
<p>5</p> <p>Then he came up with a plausible mechanism to explain how species change - BY MEANS OF NATURAL SELECTION</p>	<p>6</p> <p>He thought that species accumulated changes (Selected by nature) over hundred million years.</p>
<p>7</p> <p>Most eminent naturalists then rejected this view of mutability of species as the Earth was thought to be so NEW</p>	<p>8</p> <p>Then what exactly Natural Selection means (broadly)? How did he defend his view??</p>

Acknowledgement: The Origin of Species by Charles Darwin

## Foodie Corner

AASHAY PATIL

For those foodies who are too lazy to step out of their rooms, or those who want to have a quick bite before a lecture, or if the mess snacks are not to your taste, Faaso's might just be the right place for you. Faaso's is all about fresh *desi* wraps, curries and biryanis delivered at your doorstep in super quick time.

The wraps are awesome and the rates reasonable. For vegetarians, Aloo wrap costs ₹25 while Paneer Tikka wrap costs ₹50. Both are worth trying. Non-veg lovers can opt for Chicken Tikka Wrap which costs ₹50 or the Double Egg wrap which costs ₹25. In addition to wraps, you can also order curries (they call it masalas), biryanis and parathas for a full meal. The quality is pretty good. The quantity is fine, 3-4 wraps will be more than enough for a normal person.

Faaso's has 10 outlets in Pune, with the nearest one at Aundh, delivering at our hostel. You can also get delivery at the bus station, the train station and the airport. You can also tweet to order. Register one time @www.faasos.com/registration.aspx and then keep tweeting your orders @faasos! Moreover, you can also order for parties through facebook. They claim to deliver in 45 minutes flat!

### CONTACT

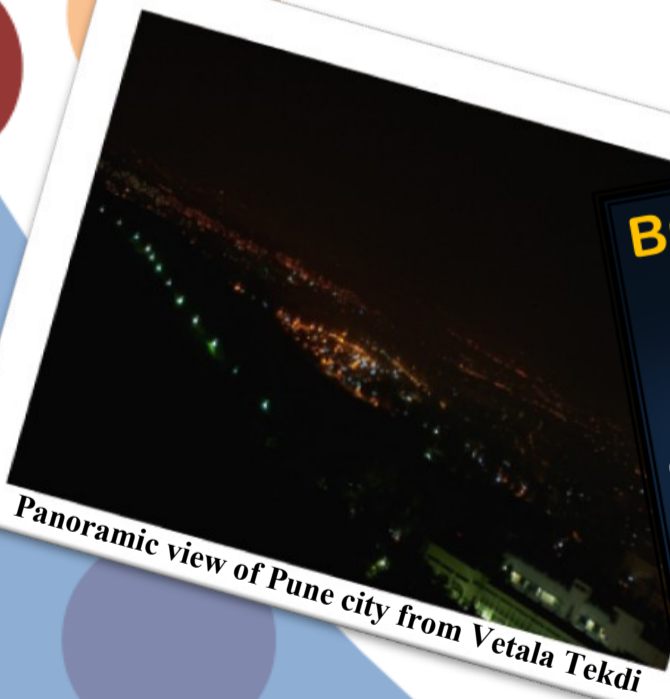
Address (Aundh): Shop-9, Kumar Prerna Building, opp. Medipoint Hospital, D.P.Road, Aundh, Pune-7

Web: www.faasos.com

Tel (Aundh): 02025888111, 02025881107

Tel (delivery @train station): 02026126969

Tel (delivery @airport): 02032326888



Panoramic view of Pune city from Vetala Tekdi

## Breathe...

# A Night Walk To Vetala Tekdi

NISARG DESAI

Oh man! I have to complete this assignment today, and I have that quiz tomorrow, I have to do this and I have to do that! Oh my God! These weekdays are horrible, think of doing something and something else pops up! It's difficult to find time for yourself even in the weekends. Still, somehow, one Saturday, we decided to go for a small 'night walk' nearby. We began at midnight with cell phone torches! Initially it was difficult to pick out the path, but gradually your eyes get used to the darkness! Things start becoming visible; you are able to see the way, the rocks and trees all around. It is at times difficult to figure out the depth of the pits in the way though. The city is silent and calm this time of the night - no noise of vehicles, no people in the way - one experiences 'peace' in Pune!

As you climb up the hill, you start seeing wonderful views of the city. We kept climbing while enjoying the beautiful view and listening to the orchestra of the breeze rustling the leaves and the sounds made by insects. We saw some scary abandoned buildings on the way and also an abandoned mine. From far away we saw a red light from the temple of Vetala, after whom the hill is named Vetala tekdi. We reached the temple at around one in the morning and found a person sitting in front of the idol of Vetala. We were scared out of our wits when, hearing us, he turned back ever so slowly. We didn't dare enter the temple after that! We decided to climb the watch tower beside the temple. It was so old that some of its stairs were broken and it trembled if we moved around too much. We were nine people and so we stepped very cautiously, but that was not enough to prevent the tower from quivering. There was an extremely beautiful view of the city from the tower. We can sit there for hours and hours together in silence and get sunk in such beauty. We sat there for two hours and at around three in the morning, when we started feeling cold, we decided to return.

## EDITORS

Aashay Patil

Arshad Arjunan Nair

## YOUR ARTICLE COULD BE HERE

or maybe in a bigger and better spot?

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