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Editorial

Welcome Aboard!

The month of August brings with it a slew of fresh voices to the campus of the Indian Institute of Science. This year, 800 new students/research scholars were admitted. These new faces undoubtedly come to the institute with a lot of hopes and expectations. Also present, perhaps, is a small measure of apprehension that accompanies joining a new place. From student volunteers first accompanying the freshers to the institute from the bus stops/train stations to the welcome they receive (by the Director and the various student bodies), the institute does its best to make the newest members of its fold feel at home as soon as possible.

To our newest readers, Voices too would like to say, "Welcome Aboard!" As you unpack your bags and settle down into your new lodgings and begin to look around, you are bound to wonder, "What kind of a place did I get myself into?"; the tone of the question being more inquisitive and exploratory, rather than accusatory.

What, it is only natural to ask yourself, does this place have to offer? As is usually the norm, if, like in the past years, this was our "Freshers' Special", this column would have ended here, with a few added words on how this edition of Voices is the answer to all such questions. However, as this issue of Voices is not our usual fare with which we welcome the incoming freshers, a few more words are in order.

The Indian Institute of Science is, without contest, the topmost research institute of India. A fact reaffirmed

recently, when the 2013 edition of the Academic Ranking of World Universities (ARWU 2013) was released. So, the education that you will receive here and the research opportunities that will present themselves to you will be top-notch. But this is not all there is on the table. The various student bodies that are active on campus and the various amenities that this campus gives you, provide you with an ample opportunity to develop yourself in all facets. Whether you wish to indulge in an existing hobby or cultivate a new one, with the wide range of activities on offer, it is highly unlikely that you will come away disappointed.

Makes
Sense

At this point, you are probably wondering, where do I look for information of this sort? Well, the archives of Voices are a good place to start. A few of the more prominent recreational clubs feature in our "Freshers' Specials" of yore. If you are a gourmand or simply find yourself bored of what the messes have to offer, the

"Food Special" that Voices came out with a few years ago would be of incredible help. An issue dedicated to the vagaries of research life, the "Research Special" is worth perusing as well. These special issues, as well as over 10 years' worth of regular issues, which make for excellent reading material, may just help you come to terms with IISc sooner. So head over to the Voices website (www.iisc.ernet.in/voices) at the earliest and dig in! And while you are at it, if you feel like sharing your first impressions about your new home away from home, do not hesitate to write to us.

K. Vijayanth Reddy (ECE/CeNSE)

NOTICE

Dear Readers,

As you might already know, over the past few years, our campus has shown itself to be wanting in the security department. Our forthcoming issue will address your concerns in this area. So don't forget to collect it.

Voices Team

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Making a Difference: IISc Students Volunteer for Flood Relief Activities in Uttarakhand

Any natural calamity, especially one that is as prolific and devastating as the Uttarakhand floods of June, 2013, demands a lot of hard work and consistent efforts from the affected as well as their supporters, for rescue, relief and restoration of life. Apart from the local government agencies and the Indian Armed Forces, many NGOs played an important role in helping to bring back normalcy by multiple means. Voices felt proud to know that four IISc students, Snehal Mandlik (AEROSPACE), Banke Bihari (CAOS), Maqsood Ameen (AEROSPACE) and Surya Deb Chakraborty (CIVIL) went to Uttarakhand as part of the Students' Council's Nation First Initiative (NFI), and assisted in flood relief activities, sometimes even risking their lives! Here is an exclusive interview with two brave-hearts - Maqsood and Surya.

How did it all start?

Maqsood: Nation First Initiative had contacted a lot of NGOs who were working in Uttarakhand and they finally found a group called 'Boond' which did ground work there, unlike other groups which just distribute provisions and then leave. Boond was started by a few Facebook friends. But eventually a lot of the members, who were professionals, gave up their jobs to become full time members of the group. Two guys from IISc, Snehal and Banke Bihari, contacted this group. The group had already been to Uttarakhand to find out which of the villages were affected.

Surya Deb: So Snehal, Banke and another guy Bhuvan from IISc, contacted this group to assure themselves that the resources were being used for the right purposes. They also found out where the group was headed, which villages they were going to, all the particulars.

What were the personal motivations to join the relief operations?

Maqsood: I am not a part of the Nation First Initiative but I have taken part in other small social committees.

Surya Deb: In my case, the first time I saw the extent of the calamity on television, my friends and I had planned to go there. We had actually also tried searching for a group that was working there but we didn't come across any. So when I got a call from Maqsood regarding NFI's plan.....

Maqsood: The NFI had sent a mail to all students asking for help. Most of us had not met each other before this. Initially, 5 or 6 people had turned up but when they got to know about the journey and the risks involved, most had to back out because of familial pressure. Even I had some problems, but I decided to go.

Surya Deb: I had plans to go home for a break but I cancelled them and decided to go to Uttarakhand. My family was really disappointed, but I took this decision without their knowledge. If they had known, they probably would not have let me go.

Maqsood: It took us close to 3 days to reach Uttarakhand and the journey was mostly terrible. We took close to forty hours to reach Delhi and from then on to Rishikesh. Till Rishikesh, the terrain is pretty flat,

so there was no problem. Then from Rishikesh onwards, once you cross Shivpuri, that's when the dangerous route begins. At every hairpin bend, you can actually see places where landslides have occurred. Apparently, it's not only this year; every year there is some incident or other.

Surya Deb: From Rishikesh, we went onwards to Rudraprayag. Near Rudraprayag, there is a village called Sirinagar which you need to cross. This village was directly in the path of the flash floods. Around 10-12 buildings there were completely under the deposited silt, which came up till the second floor. The dead body count is apparently close to 100. All the roads have been washed away. Some temporary mud roads have been made by the government for buses but they are very risky. So there are many hairpin bends and they have just about enough space for a single bus to go, and that too barely.

Maqsood: We reached Rudraprayag in the evening. The road from there on was heavily damaged and the drivers wouldn't agree to travel past dusk. So we had to halt for the night and start off early in the morning the next day. So from Rudraprayag, we went to Mohankhall and then to Khandara where the team Boond was based at the time. But they keep shifting their base camp. They stay close to a place for around 20 days, survey the area to find out what are the most immediate and actual requirements and provide help. After that, they move on to other villages which require assistance.

Surya Deb: We are not talking about places like Kedarnath and Uttarkashi. Those places were the worst affected. In fact, there were no rescue operations to those places because there were no survivors. Our goal was not to go to those places. Our main objective was to reach places which had lost connectivity with other places and provide resources such as food and medicines to those areas. That was our primary aim, because these are the places that the Government is not accessing. So most of the time, we had our luggage and the provisions such as food and medicines and we would walk it for close to 20-30 kilometres with all of it. To those of the local residents who were able to come to the camp, 'parchis' (small tickets) were distributed so that they can come and collect provisions from the camp directly. Even if there were people capable of coming to the camp, some of the villages had been cut off. A small stream, for example, had eroded to rise to 50-60 feet and hence the neighbouring villages had become inaccessible. So for those people, the Boond team, along with another foreign team, was providing these rope bridges, a sort of manual pulley system. We were also using the same rope bridges to carry provisions out to the inaccessible villages. And it was very risky doing so with all our baggage.

Maqsood: In fact, in some places the rope was fraying... The team there was an amazing one, from all parts of India. They all felt that they were taking risks for a good cause, their frame of mind was something else altogether.

Surya Deb: We, of course, were not of the same mindset (laughs). I was leery of crossing the first time, so we waited for other people to cross first and then we



Maqsood crossing the river using the pulley

got some confidence and did it. Some very good work was done by team Boond there. In one of the villages called Chandrapuri, a guy called Shiva had suffered from spinal cord injury and had not received any help for one and a half months. So Team Boond actually constructed a helipad in the village to help airlift Shiva. Unfortunately, the night before the helicopter was to come, Shiva passed away. There were many such cases where the patients were just unable to reach the hospital in Rudraprayag because of the lost connectivity. In another village, which was at a higher altitude, we had 84-90 year old patients who were unable to go to Rudraprayag. So team Boond had these stretchers on which we carried the patients almost 6 kilometers down to the main roads.

Maqsood: That too was through hilly terrain and in places, we would have to cross streams.

Surya Deb: One of the major deficiencies we felt was the lack of trained doctors. The whole team was covering close to 50 villages. About 1.5 lakh people and there was only one threadbare hospital and no doctors. There were a couple of primary health care centres, but everywhere the doctors were on long leave. The people don't even know whom to complain to. And by the looks of it, this has been the case for a long time now, even before the floods.

Maqsood: These people are now worried about their livelihood, because in all this devastation, people have lost their homes and place of work. Till the place is put

back together again, they will not have jobs. Many people lost shops for which they didn't even have proper documental proofs. People with documents or proofs will get some reimbursement; but people who don't have any documents, have nothing. People have even lost their ration cards, their identities. In one of the villages we went to, the Pradhan drew us a map, a kind of before and after picture. He told us that there were around 200 buildings, of which only 12-13 remained.

Surya Deb: Another thing that we also did on our first day there was rescue a bull. It was standing in a gorge nearly 30 feet deep, that was located near the river bed. Apparently, it had been stuck there for 2 days. We thought that if we approach it directly it might attack us. So we collected some grass from the hillside, went down and kept the grass in front of it. But the bull managed to surprise us. It came to us as docilely as a pet dog. It knew that we had come to help. To pull the bull up from the gorge was also very challenging because it was a steep incline. So we walked some distance along the riverbed to this village which had also been wrecked. There, we took the floating wood, doors, plywood etc. and we made steps for the bull all the way up the incline. It took us almost 3 hours to rescue the bull.

What about your food provisions?

Maqsood: We did not have any proper food for ourselves. Our food used to come with the other



Surya Deb seen with the bull that the volunteers rescued

provisions. Hence it was all packaged food, like biscuits. Cooking was also a problem as we did not have any gas or kerosene. You are supposed to use firewood for cooking. The first task we were given when we reached there was to make tea on the fire. It took us 45 minutes (laughs). The wood was all wet because of the incessant rain and it gets all smoky, you can't even open your eyes... one hell of an experience!

Surya Deb: We used to cook dinner but it was a simple affair. Some rice, etc. Still, it used to take close to 3 hours. As he (pointing towards Maqsood) said, it used to rain almost every day, so the wood used to be generally wet and we definitely had very little expertise between us. So most of the time, we just subsisted on biscuits and Mazaa. Mineral water bottles were available. The team had made sure of that.

Maqsood: We are pretty sick of Mazaa by now (Laughs). See, most of the people in the group have been doing this kind of thing for some time now. Some participated in the anti-rape protests in Delhi, some in the Delhi slum project. Some of them had even been jailed for their involvement.

So in comparison, you guys have had a more sheltered existence. It must have been a shock to you. How did you cope up with it?

Maqsood: We were the new comers, so it was quite a shock to begin with. But the group is used to bringing in new members, so they started us out with tasks, one at a time, so that they knew the capabilities of each person.

Surya Deb: They made sure that all of us had some field experience because field work is pretty tough. You have to walk great distances carrying heavy loads and not everybody is able to cope. We had a colleague who got quite ill after being in the field as he had some breathing problems. So he was not given that kind of work again. So according to capabilities, tasks were allotted. But the team ensured at least one field experience for everyone, because, unless you go out in the field, you cannot grasp the whole scenario.

So how does the Boond team determine that they have completed enough for a particular village?

Maqsood: First, they'll have an initial survey. Whatever

is immediately necessary, they'll provide. And then, they'll talk to the Pradhans and see what their resources are for the next few months, how they are going to manage. The Pradhans are in touch with their higher ups in the government. When they get some source of supplies, they let the Boond volunteers know that they have a source now and that the Boond team can stop coming.

Surya Deb: Another thing that the team is now considering is a future project like say the Uttarakhand Employees Association, a self-help group and an income generation activity.

Maqsood: They were planning a few activities like conducting workshops in these villages, things to give them long term relief.

So it is not only relief, they are also trying to bring things to normalcy. Is it?

Surya Deb: Because relief is only for one month. They have to think long term. In some time from now, these relief resources will get over. The people need to have a job, an occupation beyond that, to move on in life. So for that too, the Boond team is making plans. That is one of their main objectives. And that is good, and needed. Because the conditions are so bad that it may take 3 years or more for the infrastructure like roads to be back to how it was before the floods.

Maqsood: I don't know how long it will be before the roads are functional again. The kind of damage the floods have caused is really scary!

Surya Deb: For instance, the rope for the pulley we spoke of was tied to the second floor of a hospital building and we could walk into the building from the second floor! The ground floor and the first floor were completely buried. We believe the dead bodies are still inside, because on a sunny day, the smell of rotten corpses would waft out. So we would wear masks when around it.

Maqsood: Yes. In some places like that, we had to use masks. It was scary. To even think about it now, is scary!

This topic was covered in media, but was there any involvement of government, local or state, in whatever relief efforts that happened there?

Surya Deb: The military are working very hard. But to whichever village we went, no one had brought any



A road damaged by the floods

relief there. Wherever we were working, we didn't find anyone from the government. The disaster management cell is now planning to make the rope pulley system motorised. We were also given phone numbers of government employees. If we have some problem, say we need a bull dozer, to clear debris, we would call them and they would come. However the accessibility problem we faced is also faced by the government employees. Hence we didn't see them working like us, going to each village, surveying the place and distributing food in a proper way.

Maqsood: And some of the bad things we heard from the locals was that the government relief vehicles coming from various states came without any volunteers along with them, just the driver and his helper. And whenever the road is blocked, they don't care to wait for it to get repaired; they just sell off the supplies to the local people. At some places, I heard that bottled water was sold at Rs. 300 – 400. Biscuits were sold for even more than that! The local people have shops and all, but these shops don't get supplies and hence they have to rely on such sources. In some places, people from across the border were coming across the hills and selling items at higher rates. And the people there have to buy. In a way the worst comes out of people when they need to survive.

How many days did you stay there?

Maqsood: 7 – 8 days, I think.

Surya Deb: Total 7 days.

Maqsood: But from setting out from here (IISc) to getting back here took 15 – 17 days. Travelling took most of the time. It took even longer to come back. The roads keep changing. Landslides would result in many detours along the way.

Surya Deb: This has been a life changing experience for me. Because there always was the fear of death. So when you fight death, do good work and come back alive, the feeling is great. The people who continue to work there, they face death every day. These people are all well-educated. Some have an MBA degree, some are doctors, engineers. They are working like a family. Everyone has their own family too. Even then, they are working there despite the risks involved.

Maqsood: The ground reality was that we didn't have anything. We had to do everything on our own.

So given time and given an opportunity, will you do this again?

Both : Obviously!

Surya Deb: But I pray this situation never happens again.

So, if you want to let the people of the institute know how they can make a difference in the society, what would you say?

Maqsood: At some point in time, you have to realise that you didn't do anything to get into such a comfortable position. It is not because you did something great that you are here. So you are responsible for the society around you.

Surya Deb: If anybody wants to go there, we can arrange to contact the Boond team and send him/her. It



Relief material that was being distributed to the flood affected.

is not a difficult thing to do. Because volunteers are needed, dedication is needed.

Maqsood: You have to be mentally prepared more than physical preparation. Think about walking 25–30 km through that terrain. If you are mentally prepared, then you can do it. There was another NGO that had come and when they saw the actual conditions, they left overnight.

So how come you two stuck there and did your work without once thinking of coming back, giving it

up? Nobody would have blamed you.

Maqsood: Even the journey to reach there was so troublesome, that we said "Ok! We will be here at least for a week, before we even think about going back on that route" (Laughs).

Surya Deb: We just understood that there was some relief camp there. We just had to distribute medicines and food. That's what we were thinking.

Maqsood: And we thought they'd have some hotel to stay (laughs). And the first time we reached there, we saw this hut. There were spiders all over the wall. I was then an arachnophobe. But by the end of seven days, we were used to the conditions.

Surya Deb: Good experiences were also there, like taking bath at water falls (smiles).

Maqsood: Yes, it is a very beautiful place! One of the most beautiful places I have ever been to.

Looking inside, before and after, has it changed the way you look at life?

Surya Deb: I have no fear (left in me) now. You can say that I lost my fear.

Maqsood: We are living in a city - all comfortable; but we should expect any of these things to happen to us too, you know. We should be able to move on in life even if something like this happens.

Voices Press

(Photos: Maqsood (AERO) and Surya Deb (CIVIL))

MOOCs: Massive Open Online Courses

Many of us would have faced some difficulty in learning a new subject by ourselves that was needed for our research work or for progress in career. Today, it is possible to learn a new subject by attending courses offered by experts in the subject area from the world's best universities. One could do this sitting at one's own home or lab at a convenient time – and what's more – all this is free of cost. This is turning out to be a major revolution that the internet has made possible in the field of education: Massive Open Online Courses (MOOCs) are all about this revolution. As the name indicates, the courses are **massive** because there is no limit on the number of students who can register and usually a large number of students register; **open** because they are free of cost and open to everyone; **online** because they are offered not in the traditional class room but on the internet.

MOOCs came into existence as professors from some of the leading universities in the world started to put up their course material on the internet so that it could be accessed free of cost. The idea behind MOOCs is that the knowledge acquired by humanity should be proactively made accessible to everyone. Consider a situation where a student is unable to go to a good university for higher studies due to one of the several possible reasons: financial constraints, family constraints or probably for being just short of making it to the merit list. Usually, he/she would have to be content with whatever college is then available. However, with the advent of MOOCs, the student will now have access to the courses offered by the very same university and even all the other best universities in the world with just one pre-requisite – having access to a computer with an internet connection. Is this not wonderful?!!

Evolution of MOOCs (Open Online Courses)

The idea of open online courses is not as recent as it might seem. About a decade ago, when I was a B.Tech student, I stumbled upon MIT Open Course Ware, wherein the pdf files containing lecture notes, assignments and answers of courses offered at MIT were made freely accessible online so that students from across the globe could download them and make use of them. As the time progressed, the open courses evolved to become more and more interactive. Today, MOOCs typically include videos of the instructor delivering the lecture interspersed with quizzes, end-of-the-lecture assignments and exams. A statement of accomplishment is given to the students who successfully complete the course. MOOCs are very close to giving students the experience of attending a course in a real class room.

I have noticed three major styles of offering the open online courses. They are:

1. The lectures delivered by Professors in the university class rooms are recorded and the videos are made available on the internet along with assignments, exams and answers. We are allowed to download all of them together and study at our own pace. e.g., MIT Open Course Ware.
2. Lectures are specially designed for MOOCs. The lectures are interspersed with quizzes to make them

more interactive and are supplemented with end-of-the-lecture questions, assignments and exams to evaluate one's understanding of the subject material. A student needs to sign up for the course and can access the material only in a pre-defined order. For example, we can access chapter two only after completing all the exercises and exams in chapter 1. Every time we sign into the course, we can start off from where we had left off the previous time. There are no deadlines and one can pursue the course at a pace suited to one's own convenience. e.g., Udacity Courses.

3. The third style of offering courses is more common these days and is very similar to the second, except that the schedule of the course is pre-determined. One needs to complete the assignments and exams before the deadline so as to achieve a statement of accomplishment. This style works best for students who prefer to have a deadline to complete the task at hand. e.g., Coursera courses, edX courses.

Here, I should mention that Coursera offers a few popular courses in **signature track** wherein, a student can pay money to get his/her identity verified and get a certificate of accomplishment which is authenticated by Coursera.

What are the kinds of courses available?

At first glance, the variety of courses that are available is too good to believe. Courses are found from all branches of basic sciences, all branches of engineering, social sciences, law, public health, philosophy, arts, music – you mention a name and you are more likely to find it than not. The difficulty level varies from as basic as **Elementary Biology** or **Organic Chemistry** to as advanced as **Quantum Physics** and **Digital Signal Processing**. As more Universities are going to join hands in this endeavour, the number and variety of courses is bound to increase further. A few examples of the courses offered through Coursera are:

- *Writing in the Sciences* (Stanford University)
- *Mathematical Bio-statistics Boot Camp* (John Hopkins University)
- *Virology 1: How viruses work* (Columbia University)
- *Introduction to Engineering Mechanics* (Georgia Institute of Technology)
- *Constitutional Law* (Yale University)
- *Introduction to Philosophy* (University of Edinburgh)
- *Introduction to Guitar* (Berklee College of Music)

Table 1 lists some of the popular platforms and the types of open online courses that they offer.

What difference can these open online courses make?

The ability of a single teacher to reach virtually an unlimited number of students without compromising on quality is a very powerful phenomenon and could have far-reaching consequences. The scientific journal **Nature** recently came up with a special feature titled “**Learning in the Digital Age**” and predicted that the MOOCs could alter the face of economics and dynamics of the education Industry⁶.

For example, why would a student want to pay money to a college, when there is access to the best lectures on the same subject free of cost? Does this mean that several middle tier colleges and academic institutions will have to restrict their activities to providing laboratory

facilities? The idea may now seem far-fetched, but we cannot really rule out the possibility. Even if we ignore the future implications of the onset of MOOCs, they do not fail to make an immediate and palpable impact on both the students and the faculty.

Name of the Open Online Course Provider	How did it start?	What are the kinds of courses available?
MIT Open Course Ware ¹	Started in 2001 when MIT decided to publish educational material from all its courses freely on the web.	Academic material for more than 2000 courses of higher learning from different areas has been put up online.
Udacity ²	Udacity was founded after one of its co-founders Prof. Sebastien Thrun along with his colleague had experimentally offered the course "Introduction to Artificial Intelligence" online for free and about 1,60,000 students from more than 160 countries registered for it.	Udacity offers very high quality and interactive courses predominantly in the area of computer science and mathematics. The courses are categorized as beginner, intermediate and advanced. A few beginner level courses are offered in physics, biology and psychology. In total there are about 30 courses.
edX ³	edX was co-founded by Harvard and MIT and now includes about 28 partner Universities from all over the world (though primarily from the USA). IIT Bombay from India is a partner.	edX currently offers about 60 interactive courses of higher education on subjects including science, engineering, law, social science and so on.
Coursera ⁴	Coursera is one of the most recent but rapidly growing platforms for offering MOOCs. Coursera currently has about 80 partner universities and offers about 400 courses. Coursera is a for-profit venture and was awarded "Best Overall start-up" for the year 2012 in the 6 th Annual Crunchies Awards ⁵ .	The courses offered at Coursera vary widely in the subject areas as well as in the difficulty levels. Coursera is expanding to offer courses not only in English but also in other languages – currently a few courses are offered in French, Spanish, German, Chinese, Arabic and Italian.

Table 1: Details of popular providers of MOOCs and the types of courses that they offer.

MOOCs are beneficial to students in the following ways:

1. They give the freedom to attend the courses at any convenient time.
2. They are free of cost and cause no additional financial burden.
3. They are usually offered by experts in the field who have a zeal for teaching.

MOOCs may bring about the following impact for the Professors:

1. The ability to reach a large number of students across the world ought to be an immense source of satisfaction. In a traditional class room, the number of students for a popular course may go as high as a few hundred. However, in MOOCs, there is virtually no limit to the number – up to several tens of thousands of students have registered in some of the popular Online Courses.
2. The discussion forums in MOOCs act as a source of candid and instantaneous feedback about the course. A young faculty, who is evolving his/her course may find the feedback very useful in evaluating which parts of the

course were well received and which parts may need further modification.

Is there something that we can (should) do at IISc?

1. Recording the lectures delivered by Professors in the class rooms

A practice of recording all the important talks (delivered in the Faculty Hall) has already been set in IISc. The links to the recorded lectures are made available on the IISc home page. Similarly, it will be good if the lectures delivered by the Professors in the class rooms are recorded and made available online. Additional expenditure and effort involved in this exercise will clearly be out-weighted by the invaluable resource that will be built. The recorded lectures can be accessed by students on campus who find the course beneficial but cannot attend it due to time constraints caused by experimentation or lab work. The lectures can also be accessed by students all over the country and world. Additionally, the lectures can be archived to be

accessible even after the Professor has retired from active research.

2. Making online courses for subjects which are pre-requisites for inter-disciplinary research

Unlike in the past, research in inter-disciplinary areas has become the norm in the present day research community. In such a situation, one may feel uncomfortable in starting work without having a good foundation of a subject area that is needed for the research. To quote a few examples that I have observed on our campus:

- i. A communications engineer working on neurotransmission needs to learn about the biology of neurons.
- ii. Physicists and chemists embarking on structural studies of biological molecules need to have a knowledge of molecular biology.
- iii. Many biologists need to have a better understanding of mathematics (probability, statistics and calculus) to be able to better evaluate their experimental results.
- iv. Many researchers need to have fundamental knowledge of programming principles and an acquaintance with Linux operating systems to be able work more efficiently.

In most cases like the above, the students acquire the deficient knowledge slowly with time in a somewhat inefficient manner. Would it not be great if these pre-requisites are built into courses or learning tools and made available online? Students can then get a quick and confident launch into their area of work.

One way to achieve this goal is by mutual and reciprocal cooperation. For example, the students in biological sciences can make the learning tools required for engineers working at the interface of biology and *vice versa*. A one-time effort put in this endeavour will yield benefits for several years to come. Once again, this material can be made available on the internet and may turn out to be a very useful resource to teachers and students across the country.

Concluding thoughts

Though it is undeniable that MOOCs can empower the students with quality higher education irrespective of their country of residence and financial status, these Open Online Courses will always lack an important ingredient of higher learning: the opportunity for the student to directly interact with the teacher. As a graduate student in IISc, I had the privilege of raising my hand to interrupt a Professor and clarify my doubts during a lecture. In some instances when I was too timid to do that during the class, I used to meet the Professor at the end of the class and ask my questions. In most cases, the ensuing one-to-one discussion would have dispelled my doubts or at least left me with some food for thought in the right direction. This privilege of one-to-one interaction is something which MOOCs will never be able to provide to the students as that would be precluded just by the sheer number of students participating in the course. Nevertheless, MOOCs enable the students to access the world's best sources of learning with a few key strokes and mouse-clicks. What could be a more

powerful tool in a student's arsenal in the mission towards higher learning?

A revolution in the process of learning and education is set forth with the advent of Massive Open Online Courses. As a part of the premier academic institution of our country, we have two paths to choose from at this juncture: 1. Be prepared and poised to adapt to the change; 2. Be proactive, take part and contribute to the change as it unveils itself. I, for one, personally think that we should go with the latter.

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3. <https://www.edx.org>
4. <https://www.coursera.org>
5. <http://techcrunch.com/2013/01/31/coursera-wins-best-new-startup-of-2012-get-schooled/>
6. <http://www.nature.com/nature/focus/digitallearning/index.html>

K. Aswani Kumar (MBU)

Random Rants

The walking corpse and flowing melody
compel the idle brain
violent violin pierces the load of flesh
and the intellectual
cuckoo's shrill, out of place, here!
I see the decay, the decaying spirit
violence tears apart the broken;
the broken heart and the rolling drops
I know not, who knows
I know not, who knows what
I know not, where the tears went
I know not, what is left
Am I the mask that hides my tears?
Am I the illusion?
Or the eyes that fail to see the bubbles?

Or can't I see the droplets?
Is it the pretense swallowing - or
the time to battle?
To take the charge up
To find peace;
let the chatter not continue for
If it does - where will I search peace?
The sparrow is hurt
HEAL yourself, sparrow
Free yourself from the perches
Start the battle and
Heal yourself
Tears are true
Hurt is true
Let the pretense not escape
Beat it to death
Proceed for the battle,
Hey Sparrow, Heal yourself
Free yourself

Bharathi R (MRC)

Sangam 2013: The Students' Council Freshers' Welcome

Every year, the Students' Council organizes a welcome for the new batch of students. This year, it upped its scale in terms of grandeur, promising a larger, more grandiose event, joining hands with the Dance Club, Rythmica, Rangmanch, TSS, SIMA, Hindi Samiti, Marathi Mandal, Bihari Samiti, Spandan, Gujarati Parivar and the Photography club, IISc. Sangam 2013 was a two day programme, dedicated to bringing together different flavours of India through an amalgamation of music, dance, drama and games.

Day 1 - August 17th, 2013.

Sangam began with a search for hidden treasure across the IISc campus, courtesy the Treasure Hunt held in the morning. The hunt began at the Gymkhana grounds, from which the subsequent trail of clues led the participants to their final destination, and extended well until noon. This was followed by the game 'Chain' on the grounds. The events of the evening were held at JN Tata Auditorium, which was bright and colourful, brimming with students dressed in ethnic wear, in lieu of India's recent celebration of 66 years of freedom. Koushambi and Devendra were the anchors for the day, inaugurating the event at approximately 5:30 PM.

The first performance was a rendition of Rabindranath Tagore's 'Rituranga - the Seasons galore', a description of six different seasons and their effects on the human mind, woven together beautifully in the form of a dance. The dancers took the audience through the scorching heat of summer, the respite of monsoons where peacocks dance, through early and late autumn, a chilling winter, and finally to the blossoms of beautiful spring. This was followed by the Thiruvathrakali, a dance form originating in Kerala. This dance is typically performed by women to attain marital bliss and is considered a celebration of female energy and fidelity. The dance involved elaborate movements in circles and gentle clapping of hands. Next, the children benefitting from the IISc Notebook drive put up a riveting and energetic show, dancing on popular Hindi and Telugu songs. This performance was much appreciated by the crowd, and resulted in tremendous applause and cheers.



Undaunted

Photo credit: Chirantan Pramanik (CAOS)

Rangmanch, the official theatre club of IISc, showcased their play entitled 'Incredible India - Bonded by strings of emotions'. The play was divided into five acts, with every act depicting different events in various places of India occurring at the same time, each linked to a bomb blast in a local train in Mumbai. The play captured nitty-gritties of people from different regions, together with their behavior and regional accents. Each act generated thunderous applause from the audience, interspersed with laughter, gasps, and much appreciation for all the actors.



Politics at play (literally)

Photo credit: Nilkanth Pathak (DESE)

The hour long captivating play was followed by a folk dance from the state of Andhra Pradesh. This folk dance was a depiction of fun-filled bickering, with the men pursuing and persuading the women to come home with them for the harvest festival Sankranti, and the ladies playfully rejecting their advances. This was followed by a traditional dance form from Maharashtra. The dance began with the invocation of Lord Ganesha as is traditionally considered auspicious, and was followed by the foot thumping 'Lavani' and 'Koli' dances. Their dance culminated with 'Gondhal', performed in veneration of Goddess Renuka or Goddess Tuljabhavana during auspicious occasions. Next in line was the folk dance from Rajasthan, performed by a group of girls in swirling robes or ghagaras. This dance was extremely high on energy and entertainment.

The energetic folk dances were then followed by one of the eight classical dance forms of India, the Odissi Moksha. Moksha implies spiritual liberation, and that is reflected in this dance with the dancer attaining spiritual culmination as she soars in delight. The dance movements were smooth and blended beautifully with poses to create new patterns in space and time. In continuation with the classical dance forms, came the Thillana, a form of Bharatnatyam that is usually performed towards the end of a concert. This dance form is considered to be a pure Nritya (dance), where the Raga is reflected in complex and vibrant footwork and several captivating poses of the dancers. The dancers enthralled the audience, with some even calling this performance the highlight of the evening.

**Poise****Photo credit: Utkarsh Vijay (BS)**

The final dance of the evening was the colourful and absolutely delightful Bhangra, the extremely popular folk dance originating from Punjab, inclusive of lifts and cartwheels, much to the audience's awe. The dance and the first day of Sangam ended on a high note, with the dancers welcoming the freshers once more.

**A Grand welcome****Photo credit: Chirantan Pramanik (CAOS)****Day 2 - August 18, 2013.**

Day 2 of Sangam, much like Day 1, began with games on the Gymkhana grounds in the morning. There was enthusiastic participation in the 'Tug-of-war', with students grunting away while pulling the rope to victory. JN Tata Auditorium was populous once more in the evening, with the musical extravaganza of Day 1 continuing well into the second day. Rhythmica presented to the audience music of various genres, encompassing folk, classical, classical and western fusion, and instrumental fusion with different percussionists showing their prowess. Keeping up with the patriotic fervor, they also presented a captivating rendition of A.R Rehman's 'Maa tujhe salaam', and ended their performance with the evergreen 'Mile sur mera tumhara', befitting the theme of Sangam - a confluence of cultures.

A short break for high tea was followed by a warm welcome by the Students' Council Representatives Arka, Javed and Awanti, the anchors for the evening. Ganesh, the Students' Council chairman, addressed the audience

and invited the Director, Prof. Balam, to formally welcome the freshers. The Director welcomed the new batch of students, and in his inimitable style called the students the strength of the Institute. He stated that the first batch of IISc comprised of only 12 students, with the intake now 800 in the current year. Speaking on the Undergraduate programme, the Director called it a 'unique experiment' undertaken by the institute, and laid emphasis on the fact that IISc will primarily be a postgraduate research institute. The 2013 Academic Ranking of World Universities (ARWU) placed IISc in the top 500, ranked in the 301-400 category, making it the only Indian Institute to be a part of the list. While this fact was applauded by the audience, the Director insisted that the achievement was not something to be proud of, firstly due to the position that the Institute held in the rankings, and secondly due to the fact that none of IISc's sister institutes could make it to the list. He stated that the goal of everyone present must be to ensure that the work done at IISc eventually propels it forward as far as its reputation is concerned amongst the Universities of the world. Prof. Balam also spoke of plans to release the diary of Morris Travers, IISc's first director, in the form of a memoir. On a lighter note, he joked that the problems of the Director haven't really changed since then.

**In contemplation****Photo credit: Abhinav Jain (BS)**

Following the rousing welcome given by the Director, the Students' Council greeted the audience with the Secretary for Academic Affairs, Prapanch Nair, presenting the different committees and activities of the SC. The SC General Secretary, Brijendra, then invited on stage and introduced members of all the committees of the SC. Activities of the Gymkhana were showcased to the audience, underscoring the importance of fitness of students during their tenure at IISc. Mess committee representatives spoke about the different messes in the campus, procedures for joining and changing them, and the responsibilities undertaken by the committee. Students were introduced to the Notebook Drive, with a colourful presentation of their achievements captured through pictures. The Nation First Initiative team spoke in depth about their noble work in rescuing pilgrims at Uttarakhand. Freshers were also introduced to EntIISc-Entrepreneurship and Innovation at IISc, while an undergraduate representative spoke about the upcoming science, literary, and technical fest 'Pravega' as well. Team Voices presented their functioning and role as the

media outlet of IISc, and as the Editorial Board works in the dark to bring the issues of Voices into light, they invited freshers to embrace the dark side. The event concluded with a vote of thanks proposed by Debaleena, the Secretary for Womens' Welfare, IISc.

The two-day cultural bonanza didn't end there. The cherry on the cake was the food festival held above A-

mess on the night of August 18. A sumptuous treat was served for all palates, with representations of food items from different states of India. Sangam 2013 thus ended on a sweet note!

Voices Press

[Voices is grateful to Renuka Nayaka (DESE), IISc Photography Club Convener, for providing photographs of the event.]

The Pralaya of Shiva.

When grandly in a sky of poison blue,
The full moon rises and a shadow shines
Upon the world with scars of faiths untrue:
It is then that the ocean churns and mines
The hope of falsely faithful who are due,
So dark and languid, in the Judgment queue.

It is then that the weakened hearts betray,
When all the life hoots up in clangour huge,
When stony thoughts have hardened souls like clay
And busts of heroes flow in a great deluge,
Then in one stance of might that does not fray,
The universe upturns the grace of day.

When mines of gold burn out to ashen coal;
And duties so divide the clans of men
That they distrust each lonesome wall for a hole,
While each lies furtive in his callous den—
He thinks of all he earned and all he stole
While fire of solitude burns down his soul—

It is then that the Goddess of deep youth
Recedes her sway and summer backs away,
When people small and large all go uncouth
And tear apart each other through dismay,
When happiness loses to gloom's untruth
And leaders' stark illusions cannot sooth.

When mindsets of false beauties and their blind
Have frayed apart, so rotten with the time,
That once protected all the dark unkind;
And when the sweetest bells of the Angels chime
To claim that grand decree which was so twined
With birth and fate such as to grace the mind;

It is then, in that moment of great peace,
When all delusions die away to naught,
And every child repents for his own piece
Of a life of wrongness that was shrewdly taught
To him by people of the nights that cease,
The God of Winter comes for their release.

Great Rudra is He: storms in his hair locks!
The world that men made wonderful then falls
Apart to pieces, and the Great King mocks
The sullen faces of wrongdoers walls;
Through waves and gales He comes, through snakes
and hawks;
And through turbulent thoughts to men He talks.

Huge Kaal is He: assiduous is He!
His dexterous, swift feet walk down on hills
And his great hands work on through Nature free,
His call running through rivers and blue rills,
To elevate the spirits of the sea
That must consume the men's foul ecstasy.

Yet He is one kind God, chivalrous Might,
For He does not destroy to flatter glee
In His own heart; He comes as heaven's light
And so eradicates that things can be.
Like microbes in a grave He wages fight,
So that new seeds may grow for a new, green sight.

Yet that one thread to which bright hope may cling
Will not be severed, for in every age,
Humanity will see a Noah sing
To great God Vishnu, the unworldly sage;
And in the knells that Rudra will then ring,

The Winter's song will bow to praise New Spring!

Atul Sharma (BS)

Fitness Woes

This morning I went to the gym,
in a rare urge to keep me trim.
From far behind, on the treadmill,
I saw a lady walking with skill.
I got closer: 'twas not a 'her' but a 'him'.

I lifted a two-kg dumbbell:
my arms started hurting like hell!
I then tried the skipping rope,
but I badly tripped on the slope
and fell on face to emit a shrill yell.

Later, I went to the open ground:
joined folks 'twere running around.
Just as I geared up for the race,
I tramped on my left shoe lace
n dropped'own with a thud on an earthen mound.

I recovered from all this just in time,
with two parts vodka n one part lime.
't's a very refreshing drink:
Stirs you up to clearly think.
Else, how could I write this ghastly rhyme?

Pradeep M (CIVIL)

Students' Council News (July-September)

Greetings from the Students' Council!

In July, SC along with Mess Committee and the support of the students was instrumental in reversing the decision to privatize the messes and 2012 batch students have now been allowed to join the old messes. Among the new messes, E-mess has been closed and the C-mess has been shifted to its location. The D-mess will continue to run for another 6 months subject to evaluation by the mess-committees (after 3 months) of the A/B/C messes. The administration has agreed to continue the current pricing structure for the old messes till December. This welcome decision was the result of the efforts of the Students' Council and the Mess Committee. The financial assistance on mess bills is now shared with D mess boarders. The efforts climaxed in a peaceful march by the students against the imminent rise in mess bills. We thank the students who participated in the march as it was only due to your support, cooperation and participation that our stand was made strong and the results are for all to see. We hope to see similar unity in other issues binding students as well.

Health Committee and Social Committee of the Council in association with Rotary Club organized a Blood Donation camp on 15th August. 222 units of blood were collected. We thank everyone for participating in large numbers and making the camp successful!

Environment Committee members had surveyed the present state of dustbins and waste management in the campus and a report of the same, along with photos was presented to the Registrar. The work was appreciated and a meeting was arranged with the person in-charge of garbage collection. The request to install new dustbins was considered and this issue is being worked on. Members of the Environmental Committee also made an attempt to beautify the Faculty Club premises recently. A 'Clean the Campus' drive will be organized soon by the committee. Please come forward and help us in this endeavor to improve and maintain the environs of our beautiful campus.

The Nation First Initiative (NFI) has sent teams to the flood-affected region of Chandrapuri, Uttarakhand to engage in relief and rehabilitation of the affected people. The NFI teams are continuing their commendable work and will do so for a few months till the work in that area is completed. There were several teams sent and each team stayed there for a specified duration, contributing to the entire body of the work to be done. Students interested to volunteer can contact the council. On the occasion of Independence Day, NFI performed a short street play on theme of "Are we really Independent?" in front of the messes. The play received an enthusiastic response.

Much of the SC activity in July was focused on organizing the assistance given to new students joining this fall in the entire admission process. One group oversaw the transportation provided to the freshers to reach the institute from Yesvantpur and SBC railway stations. Our volunteers plied from early morning to late

night to help the newcomers reach the institute without any hassles. Another group worked to set up help-desks and disseminate info-sheets to direct (i.e. hostel room allotment, buying essentials, admission procedure etc.). Help desks were put up in front of the hostel office and inside the faculty building. We hope that the freshers benefitted from this assistance. A big thanks to all the volunteers for making the entire attempt a successful one!

The Cultural Committee of the council organized a grand freshers' welcome, 'Sangam' on 17th and 18th August, 2013 at J.N.Tata Auditorium. IISc has students from different parts of the country and is a melting pot of various cultures. 'Sangam' referred to this confluence of cultures and the activities planned showcased the cultural diversity. The underlying theme also emphasized the fact that no matter where we come from, we all come under the umbrella of 'Students of IISc'; so there is Unity in Diversity! This was the first major cultural event of SC 2013-14 and with its games, dances, skits, music performances, orientation program and finally the food fest, 'Sangam' turned out to be a huge hit with the students. It was gratifying to see the participation and we thank everyone, from performers to volunteers to the keen audience for being a part of this new venture of SC.

The Amenities Committee organized a 'Bicycle Drive' in September and will be organizing a 'Laptop Drive' soon. In laptop drive, top laptop brand(s) with best deals would be invited to showcase their devices and students can purchase laptops at discounted prices.

The Hostel Committee has ensured that newspapers get delivered to the common rooms (started September 1st). The volunteers are now focusing on issues of hostel maintenance and providing other facilities (T.V. etc.) in common rooms.

A 'Library Orientation' program was conducted wherein a tour of the library was given by the deputy librarian, detailing all the available facilities. Library Senate Committee has decided to put important information related to library in the student handbook from the next year onwards.

In the past month, we organized a few talks to address problems faced by students, such as addiction.

A COD meeting was held on October 1st. The issues we presented in the meeting are: 1) Appoint a dedicated placement officer, 2) Recruitment of faculty to organize a regular English course, 3) Wi-Fi in hostel common rooms, 4) Changes in procedure of allotting supervisors in the Biology departments, and 5) Scholarship hike.

We have many other initiatives in mind and helping hands are always welcome to put those plans into action! Please mail to scouncil@tejas.serc.iisc.ernet.in if you would like to volunteer for SC activities. Do join the google group 'IISc-Students-Official' to receive SC updates.

Students' Council

The Elephant and the Blind Men: In Defence of the National Anthem

The readers of a serious article can be classified into three categories. One, those who read to cherish the importance of reading and learning, which they think they 'require'! Two, those who read with a pre-conceived mind on the subject, making the process of reading itself a 'satire'; and three, those who read only to 'show the attire'. This article is largely directed at the people in the second category, who, while lacking in information, seem to have no dearth of (strong) opinion. The first group can also join the party to stop the savouring of this debate. One request: please go *beyond* the names of the authors. It is a trifle difficult, but you can, can't you?

So, here is the topic: '*Jana Gana Mana was written by the sycophant Tagore in praise of the British. It cannot be our national anthem. We must replace it*'

This 'complaint' consistently surfaces at least once a year. Hence, it is worthwhile to share some relevant information and ascertain if the allegation is justifiable. Like any author's, Tagore's literary work, including this song, can be critically understood from three perspectives: the literary pieces themselves, the history associated with their creation and Tagore in personal life. Only then can we decide whether to fill our hearts with admiration or wrath.

History

Let's start with 'the accused' - Rabindranath Tagore. Asia's first Nobel laureate, Tagore was the most famous Indian, when Emperor George V and Empress Mary came to grandest of all the royal shows - the Delhi durbar of 1911. There was never any dearth of royalists amongst Indians, and in this context, a few of them asked Tagore to compose a song in praise of the monarch. Tagore, it is said, was quite disturbed with this proposal. After all, he had spearheaded the anti-partition-of-Bengal movement during 1905-07 and his writings, fiction and non-fiction, had been critical of the destructive British policies towards India. He decided to answer this queer request in the way befitting a poet. Describing the incident to his friend P.B. Sen, he wrote, "...A certain high official in His Majesty's service, who was also my friend, had requested that I write a song of felicitation towards the Emperor. The request simply amazed me. It caused a great stir in my heart. In response to that great mental turmoil, I pronounced the victory in Jana Gana Mana of the Bhagya Vidhata [ed. God of Destiny] of India who has for ages held steadfast the reins of India's chariot through rise and fall, through the straight path and the curved. That Lord of Destiny, that Reader of the Collective Mind of India, that Perennial Guide, could never be George V, George VI, or any other George. Even my official friend understood this about the song. After all, even if his admiration for the crown was excessive, he was not lacking in simple common sense...". It was sung at the Calcutta session of the Congress that year, which coincided with the arrival of George V. In fact, on the same day, another song written specifically in praise of the British emperor was also sung. The English press, rather poor at understanding

the subtlety of Tagore's verse, messed up their reporting initiating a confusion that has since persisted.

In his lifetime, Tagore had been asked more than once about Jana Gana Mana (abbreviated, JGM) being written in praise of the emperor. His blunt reply was, "I should only insult myself if I cared to answer those who consider me of such unbounded stupidity as to sing in praise of George IV or George V as the Eternal Charioteer leading the pilgrims on their journey through countless ages of the timeless history of mankind."

The debate over the acceptability of nationalist songs, however, continued. And as British assisted communalism (involving treacherous groups from both major communities) intensified in the 1930s, even the legendary song –Bande Mataram (abbreviated, BM)– became more of a hindrance than of actual use. The problem lay in the latter stanzas of BM, which for example, ran thus "...*Baahutetumi Maashakti, Hridayetumi Maa bhakti, Tomaripratimagadi Mandire Mandire, Bande Maataram, Tvan hi Durga Dashaprahardharini...*". It had not been a major issue for decades, but now as communalism and counter-communalism emerged as a big British ally, its 'importance' got pumped up. The freedom fighters would have to resist this 'divide and rule' tactic. So, in 1937, a committee, comprising of Subhas Chandra Bose, Jawaharlal Nehru, Narendra Dev and Maulana Azad (with Tagore as advisor) was constituted to decide which songs could be sung at the convocations and in the legislative assemblies. After much deliberation, the committee recommended JGM as the national anthem. BM and other songs could be sung depending on the time, place and situation. The august intentions of the committee were best exemplified in a letter written by Tagore to Bose. Tagore wrote, "The core of BM is a hymn to goddess Durga: this is so plain that there can be no debate about it. Of course, Bankim does show Durga to be inseparably united with Bengal in the end, but no *Mussulman* can be expected to patriotically worship the ten-handed deity as 'Swadesh'....The novel Anandamath is a work of literature, and so the song is appropriate in it. But Parliament is a place of union for all religious groups, and there the song cannot be appropriate. When Bengali *Mussulmans* show signs of stubborn fanaticism, we regard these as intolerable. When we too copy them and make unreasonable demands, it will be self-defeating..." In postscript, he added "...since there are strong feelings on both sides, a balanced judgment is essential. In pursuit of our political aims we want peace, unity and good will - we do not want the endless tug of war..." It is noteworthy it was Tagore who had composed the music for the BM in 1896. It was also a song to which many of the freedom fighters had strong personal attachment. Yet, they were pragmatic enough to banish their 'musical weapon' rather than allow the enemy to misuse it. Evidently, the priority was to form a united front against the British.

In contrast, JGM had become increasingly popular. Certainly, the freedom fighters had no doubt over its meaning. Most importantly, it's concept of India- that of a

pluralistic yet united nation - was acceptable to all Indians. It got a further boost when Bose (by this time, known as Netaji) used it as the national anthem of the Azad Hind government. In 1946, Gandhiji observed, "the song has found a place in our national life". Also the JGM was easier to perform by bands; an orchestra performance received accolades at the U.N. in 1947. It was finally adopted as the anthem of the republic in 1950. It was also decided that as the national song, the BM would enjoy a status equal to the anthem.

The Song

The question remains as to what made him write the song the way he wrote it. It could have been multi-factorial. The song, actually a hymn, has 5-stanzas, of which only the first one has been used as an anthem. A reading of the remaining 4 stanzas assures one that it is not addressed to any mortal, certainly not to a man (Stanza 4 actually mentions the word 'snehomoyeetumimaata' i.e. caring mother; and obviously, George V was no female!). Rather, its reference to an omnipresent and omnipotent destiny maker of India is similar to the Supreme Being or Monarch – the ultimate guide and arbiter of human life - a recurring theme in scores of Tagore's compositions, including the Gitanjali. Any artist's mind goes through distinguishable periods of creativity where the creative work in each period has a specific mood or thought. Since Gitanjali and the song in question are contemporary, the mood in one can be held true as the mood of the other. Another hypothesis is that the '...charioteer, the clarion call of whose sacred conch saves us from despair...' (Stanza 3) draws its inspiration from the Mahabharata.

Whether there was any actual human inspiration to JGM is not evident. But, it has been postulated that Swami Vivekananda could have had an influence. Born in the same Calcutta locality, Tagore and Vivekananda had known each other in their youth. But, there was little communication, and perhaps some mutual misapprehension, in later life. In any case, Vivekananda was dead before long.

It was only in 1907-11 that Tagore became aware of the Swami's contributions. Impressed, he made Vivekananda's writings compulsory in his new school at Shantiniketan. His idea of the monk can be summed up in his famous words, "If you want to know India, read Vivekananda". Incidentally, the 'treacherous' JGM was written in the same period. Hence, it is possible that the monk's confident attitude with respect to the motherland's greatness and destiny were inculcated into the *Bharatbhagyabidhata* idea.

A more detailed analysis is beyond the scope of this article. But, whatever the philosophical or historical inspiration, it is evident that Tagore's 'Lord of India', is not a colonial king, but an eternal beacon for the Indian people. The 'pro-British' allegation turns out to be silly indeed.

Tagore in Personal Life

Tagore was enrolled in English schools, but left all of them because of his personal dislikes. He returned to

India degree-less! He idealized that in order to create a nation where "Where the mind is without fear and the head is held high", the education system must be changed. So, he established Shantiniketan to work from the grassroots. A pertinent question to the doubters is why would he neither study nor implement the British system if he, as they allege, was very fond of British imperialism?

Tagore's contributions to the freedom struggle have been recognized by historians as being immeasurable. To cite one example, we hope that the readers are acquainted with his organizing of 'Raksha-Bandhan' as a symbolic unity between the two religions as a protest against the malicious order for the 'Partition of Bengal' by Lord Curzon. His later actions like the renunciation of the Knighthood title after the Jalianwala Bagh massacre leave no doubt of his commitment towards his fellow Indians. He remained a friend and constructive critic of the Indian leadership till the end. In his own words: "I have loved India and sought to serve her not because of her geographical magnitude, not because of her great past, but because of my faith in her today and my belief that she will stand for truth and freedom and the higher things of life".

Back to the Present

Unfortunately, the 'allegation' has refused to die down. The reason is obvious. The idea of unity in diversity - enshrined in the anthem's lyrics, the decision of the 1937-committee, the Azad Hind and the Constitution - is exactly what the communal groups are against even today. And in this case, by deliberately ignoring the well-considered decisions that should have resolved this issue over 70 years back, they ceaselessly malign the great poet and attempt to create an inflammatory situation where a few communities can be painted as 'anti-Indian'. Not surprisingly, there are individuals in other communities who respond in equally rabid manners. The end result is that either fanatical group thrives on the parochialism of the other. Frankly, their actions are not unexpected; one should not expect good sense from wicked men and certainly, poetic aesthetics are beyond their capacity.

The tragedy is that even well-meaning people get misled by their nefarious propaganda. And, that is because we often tend to have strong opinions without knowing the details of history. In essence, since knowledge is limitless, we are all blind to some degree towards the truth. The problem occurs only when someone does not understand the extent of self-blindness. Just as a few blindfolded men fail to comprehend or describe an elephant, similarly cursory readings and 'forwarded e-mails' are unlikely to be of much use in understanding Tagore (or for that matter, any genius). But, as the old maxim says, "A little knowledge can be a dangerous thing".

**Anirban Mitra (MCB)
and Souvik Bhattacharyya (MCB)**

An Interactive Session with Dr. A. P. J. Abdul. Kalam

On 26th August, 2013 the Institute was graced by the presence of former President of India, Dr. A.P.J. Abdul Kalam. Dr. Kalam, known informally as the people's president, came here for an interactive session with the students. His address to the students was to commence at 12 noon and the students were to be seated by 11.30 AM. However the enthusiastic student community started pouring in much earlier and by 11.30 AM the J. N. Tata auditorium was packed to capacity and the rest of the students were seated in the auxiliary auditoria A, B and C where the entire event taking place at the main auditorium was screened through projectors.

Dr. Kalam was ushered in by the Associate Director of the Institute, Prof. N. Balakrishnan, to an applauding crowd of students. Student volunteers presented them with flower bouquets and introduced Dr. Kalam formally to the crowd. This was followed by a welcome address by Prof. N. Balakrishnan who christened Dr. Kalam as the 'Professors' President'. He also mentioned that the undergraduate students of the Institute had played a big part in organising this session and Dr. Kalam was presented with a portrait of him sketched by Tanmoy Pal, a 2nd year undergraduate student. Subsequently, Dr. Kalam was invited to the dais to address the crowd.

Dr. Kalam extended his greetings to all the students, researchers and faculty of the Institute and began his lecture with the recollection of an event that had occurred during an interactive lecture delivered by him at the Presidency College of Chennai in 2001. After that lecture, a student named T. Sarvanan handed him a letter on a crumpled piece of paper which Dr. Kalam read later on his way back. The letter went like this:

"Dear Kalam Sir, the full power of banyan tree is equal to the power in the seeds of the tree. In a way both of us, you and me are the same, but we exhibit our talents in different forms. A few of the seeds become banyan trees but many seeds die as saplings without ever becoming a tree. Due to certain circumstances and environmental conditions, many seeds even get damaged and become part of the soil as manure helping new seeds to become trees. You have worked for the country and helped many scientists, engineers, and knowledge workers, can you tell me, how you ensured that their abilities were not wasted or their growth was not stunted pre-maturely like banyan seeds that never became trees? In your service, what is the percentage of success you can claim?"

The letter was answered appropriately by Dr. Kalam and the message that he wanted to convey from quoting the letter is that every citizen of this nation is like the seed of a banyan tree and that she/he can contribute to the success of the nation in her/his own unique way. Every seed has the potential to be nurtured into a tree and those which manage to do so must be treated at par with those which don't. No citizen is less important than the other. He then elaborated on the importance of 'setting a unique goal' and 'finding a mentor' in order to achieve scientific greatness. These attributes were exemplified by the story of a trio of scientists; Sir Humphrey Davy, Michael Faraday and Thomas Alva Edison. Michael Faraday had chosen Sir Humphrey Davy as his mentor

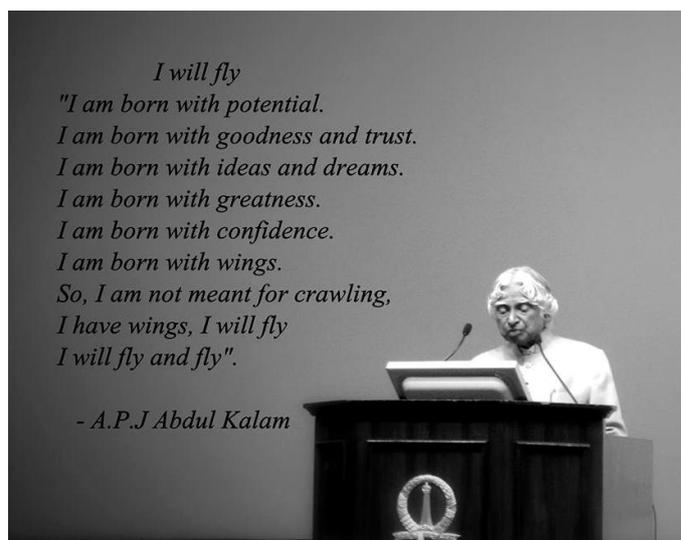


Photo credits: Renuka Nayaka (DESE)

and discovered electromagnetism. Many years later, Faraday's book on magnetism became a mentor for Thomas Alva Edison who did not have formal education and chanced upon the book while studying in a public library. Edison's goal of providing electricity to the whole of New York was realized with the help of this mentor. Dr. Kalam then acknowledged the importance of his own mentor, Prof. Satish Dhawan, in shaping his career and influencing his life. Dr. Kalam concluded this part of his speech by stating that the mentor can be either a person or a book but what is important is that the mentor should help one to realize their dream.

He then spoke about a few other great scientists who are remembered today because of the uniqueness of their contribution to science. This includes the Wright brothers, Alexander Graham Bell, Sir C. V. Raman, Srinivasa Ramanujan and Madame Marie Curie among others. He said that all of them are remembered today because of the unique questions that they had asked and sought answers to during their lifetime. All the treasures of science that we see around us today are the result of a unique question posed by someone and their unique ideas for answering the same. Dr. Kalam stated that it is important for the students today as the future of the nation to ask the question "What will I be remembered for?" and set forth to find the unique question that they want to answer. He said that a student would face multiple obstacles in her/his efforts to be unique as society has a general tendency to discourage people from being out of the ordinary. The solution to this is to persevere and soar above these obstacles on the wings provided by education. According to him, there is a two-way street between research and education and each enriches the other. In today's world of science, the importance of this intermingling of teaching and research is increasingly being realized all across the globe. During the last two years, Dr. Kalam has visited a number of top notch universities in USA, Europe and Asia and he has observed the same trend in many of these universities where students in undergraduate programs are often involved in innovative new research projects. In relation to the same, he praised the introduction of the 4 year B.S

program at IISc and hoped that this would set an example for other places in the country with research institutes opening their gates to undergraduate teaching programs and colleges and universities venturing more into research.

Dr. Kalam's inspiring and energetic lecture was then followed by questions from the enthusiastic audience. A student asked him about how corruption could be reduced in the country to which Dr. Kalam answered that the battle must start from the family. According to Dr.

Kalam, a family should constitute a happy mother and a transparent father who will be able to inculcate good principles in their children. One question that was on the minds of many people was on the issue of women's security in our country. Dr. Kalam felt that the solution was to teach men to respect women and that this education should be provided at schools and homes right from a very early age. The crowd applauded his innovative and often out-of-the-box responses to some of the questions. Finally the interaction session was concluded with a vote of thanks.

Voices Press

Moments with the Minister

A bunch of students from IISc went to attend the talk on Public Diplomacy by the "Honorable" Minister for External Affairs, Mr. Salman Khurshid at the Chancery Pavilion in Bangalore on 29th July, 2013. We went there for the entertainment, and boy oh boy did he deliver! Here are a few intelligent statements made by him.

1. "It is nice to see so many young people here today. I'm sure the quality exceeds the number". (Cheesiness alert)

2. "We do not have bad relations with China - if you call giving someone a direct chance to talk with you as a bad relation, then I feel bad for your children if that's the attitude you have". (He gives such wonderful parenting advice, no?)

3. "India maintains an engaged aloofness to international affairs. There are no easy solutions to the Egypt/Afghanistan crisis, but India can only hope that it will get better". (Yes, we're so compassionate you see).

4. This is the best one - "When I visited Africa, a minister offered me a plate of samosas and said - 'India is as old as this samosa, we feel we have known you forever' ". (No comments here. All I did was sing 'Jab-tak-rahega-samosa-me-aaloo in my head).

5. "A smile from India can achieve more than China's military power". (Smile please!)

6. Another epic one - "Do you hear Chinese songs across the world? Earlier people would listen to Raj Kapoor's songs. Now everywhere across you hear Shahrukh Khan's and Salman Khan's songs. Chinese people recite Bollywood dialogues without even understanding what they mean!" (Wow, we're global now! Just what our forefathers dreamed of)

7. On being asked why Snowden wasn't given asylum in India - "Generally we don't give asylum to people from a friendly country. You wouldn't want to upset your friend. After all, this gentleman has not done anything for us". (Friendship day was approaching).

8. "We can choose our friends, but not our neighbours." To which, another MLA quoted - "If we make our neighbours our friends, there will be nothing like it!". (Barf bag needed here)

What a speech! Take a bow, Minister (Slow clap)! Samosas, anyone?

Awanti Sambarey (MBU/BIOCHEM)

My Experiments with Tooth

I once used a tooth brush, on rental.
Got up on the morrow with a pain, dental;
'twas biting my molar
like the chill in the polar.
And the doc said I need a cure, mental.

So I went to the psychiatrist,
with a referral from dentist
Getting my IQ test, she said:

"As a child were you dropped on your head?"
And prescribed a long medicine list.

I ran to the pharma, with intense tooth pain
Gave the list of pills – all meant for my brain
The pharmacist was very kind
Saw the cause was not my mind
And relieved me of all pain with a single brufen.

Pradeep M (CIVIL)

Voices is Growing!

If you wish to join Voices, or wish to contribute an article, or have any comments, write to us at voices.iisc@gmail.com.

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