

IIT KANPUR FORMATIVE YEARS : SOME
RECOLLECTIONS,
RESIDENTS AND VISITORS.

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I

On the eve of the Golden Jubilee Celebrations of the Indian Institute of Technology Kanpur (IITK) founded in 1960, an excellent book on this institute has been written by Professor E.C. Subbarao,* AN EYE FOR EXCELLENCE: Fifty Innovative Years of IIT Kanpur, published by Harper Colins Publishers India, New Delhi, 2008. This book has kindled my nostalgic memories and intellect, but my comments on the book would be very limited since I have already penned my REVIEW which is to be published by the Indian National Science Academy in its September 2009 issue of the Indian Journal of History of Science. Besides, Professor Subbarao has rightly put emphasis in his book more on the academic aspects rather than the social aspects or the campus life, whereas I am providing a contrasting and complementary flavour in this article of mine. It is my invaluable privilege and honour that I have been invited to deliver the 2009 EC Subbarao Distinguished Lecture.

On the occasion of the IITK Golden Jubilee Celebrations, my mind naturally goes back to the golden days of August 1960. Having completed my doctoral thesis earlier on Surface Chemistry in the Calcutta University, I was then pursuing my studies on Mineral Engineering at MIT, USA. I had witnessed Centenary Celebrations one after another: Calcutta University founded (1857), JC Bose Birth (1858), St. Xavier's College, Kolkata (1860) and now MIT (founded in 1861). We heard that IITK had just been founded. On 11 November 1961, John F. Kennedy received Jawaharlal Nehru in the White House and hoped that Pandit Nehru would consider the agreement (KIAP: Kanpur Indo-American

* E.C.Subbarao Distinguished Lecture Series was initiated in 2005. This is the 2009 lecture in the series following the earlier ones delivered by Drs. E.C. Subbarao (2005), R.P. Das (2006), Baldev Raj (2007), Mark Kenoyer (2008), and Pradeep (2008).

Programme involving nine US Ivy League Institutions) as a ‘souvenir to his visit’. During the winter of 1962-63, I was invited by Professor Gerhard Derge, a visiting professor at IITK, to meet him at Pittsburgh for one full day, when he suggested that I should join the Faculty at IITK.

What follows, the entire Section II, is an approximate reproduction, with some alterations, of my article printed in the Sree Sree Sarbojanin Kalipuja Souvenir 1988 celebrating the Silver Jubilee of the IITK Campus Life.

II

THE SILVER JUBILEE OF OUR CAMPUS LIFE

When I joined IITK, the 1962-63 academic year had just been over. I reported to Prof. P.K. Kelkar (the then Director) in the HBTI campus, where all the offices and laboratories of our institution were located. Dr. Navin Chandra’s bungalow, situated near the Agricultural Gardens was being used as the temporary guest house of IITK, and I spent couple of nights there. Late Mahmood Khan was managing the guest house and serving the Indian and foreign guests with great gusto. Prof. Kelkar suggested to me that since IIT/K had started shifting its activities to the Kalyanpur campus, I should also move therein, instead of looking for a rented house in the city.

Let us now shift our attention backwards in the time-scale to the 1959-1960 period. The U.P. Government had acquired for IITK 1047.86 acres of agricultural lands in the villages of Purwa Nankari, Barasirohi and Naramau Bangor, starting from 13th July 1959. The villagers led by a Congress leader, submitted their written protest to Pandit Nehru who asked the leader, “Maniramji, don’t you want prosperity of Kanpur?” The leader replied, “Yes, but not at the cost of the poor villagers”. The compensation for their land, equal to forty times the land revenue, was considered to be much less than the market price of their land. Mentioning this episode, the leader’s son Shri Vishnu Deo Sharma asked one IIT/K audience during the 1980’s, whether the institute had done anything for the neighbouring villages. Nothing has been done till 2009.

The scene of the campus before we moved in, was standing crop, acacia woods, kaccha huts, old wells, a long winding line of mango trees (a few are still visible: see map), old distributory and a village road along the southern and northern side respectively of the row of the mango trees. The road went by the dharmasālā (pilgrim’s inn), still visible near the present domestic gas cylinder shop, and also upto the temple near the type

I quarters. Just behind the petrol pump station is the remnant of the chabutarā, an old well and the shrine of Shankarji, still visited by the ladies occasionally.

Apart from the mango trees there were a large number of other kinds of trees as evident from the land acquisition record: jamun, sisam, babul, neem, amrud, nursery plants etc. There were more than one dozen wells. Speaking of the old sights, a 1985 report records ‘the flocks of peafowl still roam, the egrets still peck around and the purple sunbirds have now more flowers to drink nectar from.’

After the demolition of the old structures, the civil construction for the institute campus was started in November 1961. The position in March 1963 when IIT/K started shifting to the new campus is provided in the following table.

**Buildings Construction started in 1961-62
And Completed in 1962-63**

Sl.No.	Name of the Building	Plinth area in sqm	Cost in Rs. Lakhs
1.	Workshop or North West Lab. I Including blacksmithy & foundry shop	4908	8.33
2.	North West Lab II	4115	7.76
3.	Hall of Residence I	11245	23.44
4.	Type III Phase I Residences	5762	11.33
5.	Sub Station No. I	213	0.31

Partially Completed: Phase I of quarters Types I, IA and II, Substation No.2, Western Lab, Visitors' Hostel.

The old type III houses (301-340) were ready along with the two Workshops and Hall of Residence No.I which was occupied later in July 1963. The rest in the campus constituted of unfinished buildings, unmetalled roads, lots of trees and empty space. Prof. M.S. Muthana, the then Deputy Director, became one of the pioneer residents moving in the quarter No. 332 during the third week of April, 1963. Some twenty of us followed him during the next two weeks. Quarter No. 330 was kept vacant till several months later, Mahmood Khan shifted the guest house facilities there. The KIAP (Kanpur Indo American Programme) representative used to stay in Quarter No. 329.

The allotment of the quarters to the faculty was made from the number 340 backwards. I may recall from my memory some of the early allotments and occupants: the future F.R.S., Professor C.N.R Rao (340), H.C. Parameswar (339), V.Kadambi (338), M.V. George (337), M.Ananda Krishnan (333), the present Chairman, BOG, IITK, also

Y.C. Das, J.C. Patel, K.B. Raut, S.D. Sehgal (324), myself (323), B. Karunes (322), V. Seshadri (321) etc. Gradually the allotments for the quarters on the other side of the road (320-301) were made to Professors K.K. Singh, L.S. Srinath, K.P. Gupta, E.C. Subbarao etc.

Dr. Muthana had exhorted us to be ‘fellow-pioneers’ in the God-forsaken wilderness of the Kalyanpur campus, which did not have any post-office or even a small grocery shop. Willy-nilly we gave him company. Our colleagues (senior in terms of date of joining), used to ply from the city and leave us at the end of the office hours with compassionate smiles!

When I shifted from the city guest house to the campus, Mahmood thoughtfully introduced to me an aged domestic servant who would take up the arduous jobs of going to the city for buying half a kilogram of potato and some brinjal and spices, and then trudging back after four hours to prepare a third rate curry for me. Only after a few months, a grocery shop cum-co-operative store was opened (with Prof. Anandkrishnan as the supervisor), and Prof. Kelkar inaugurated the opening by performing a puja! We really needed God’s blessings those days. I still recall the transportation problem faced, when an expectant mother in the campus had to be taken to the city hospital during the middle of a night.

Without any transportation system in the campus except the IIT buses playing during the office-hours, we preferred not to bring our aged parents in the campus. On the first day of the month, we would ritually go to the HBTI campus, pick up our salary cheque, deposit the same in the city bank, visit the city post-office to send a money order and buy a few post-cards and probably end the day by enjoying a few snacks in an Udipi restaurant at Aryanagar.

The city buses were not merely infrequent, these were almost as rare as God. There were no three-wheelers. We discovered that a rickshaw was the safest and fastest mode of transport from the city. From the campus even a rickshaw was not available. Several months later, State Bank and Post office were opened in the Workshop No. 2, but the transport system did not improve for a very long time.

Yet, we enjoyed the wilderness where the population had not reached three figures. The evenings were lonely. Prof. C.N.R. Rao used to sit outside his quarter on a cot. When we visited him, he would entertain us with cups of coffee and discuss with us his immediate plans for research. A few years later, he smoked a cigar to celebrate the

occasion of obtaining the first-ever set of experimental results in his IIT/K research; gradually he was well-set for his FRS honour.

Late B. Karunes was decidedly the most colourful personality in the campus. Nick-named ‘bearded beer-bottle’, he would often throw late night beer parties. In the early days, he would stun us by giving seminars on abstruse topics such as ‘Mathematics of History’ (not ‘History of Mathematics’)!

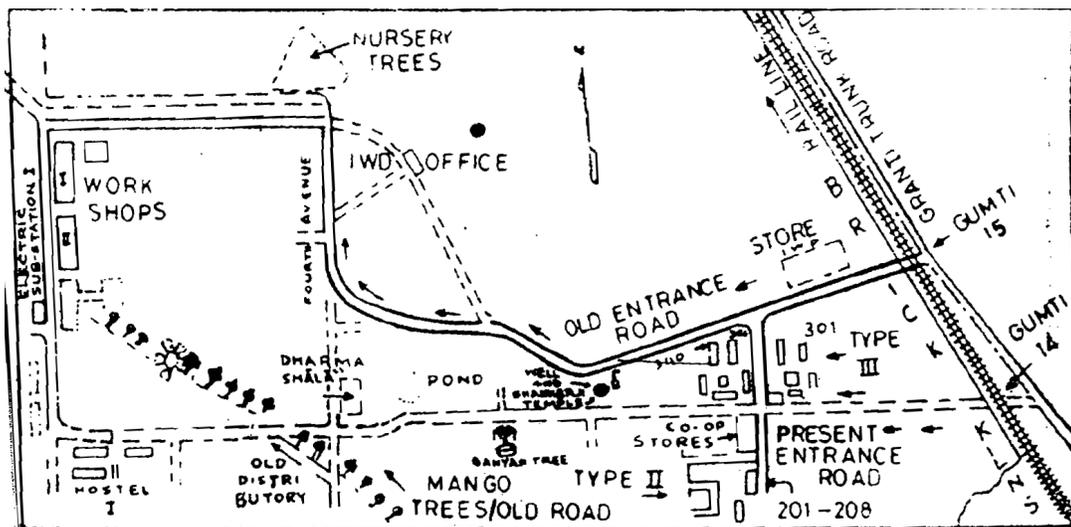
Dr. M.S. Muthana’s personality was no less colourful. Some of his comments are worth recording for posterity.

To me: “You complain about the transportation problem in the campus! There is none. Buy your own car”.

“I was not subjective or partial in my task of the allotment of type IV quarters. Of course I drew lots, although there was nobody with me at that time”.

To Dr. S.D.Sehgal: “I was sorry that my dog had bitten you the other day. Probably the dog mistook you for a student.”

Let me say a few words about the topography of the campus as it existed in May 1963 (see map). Our entry to the campus used to be through the gumti no.15 and not the present gumti no. 14. The vehicles were driven on the brick-road starting from gumti no. 15, going past the type III quarters 301, 320 , 321 and 340, an old well and Shankarji temple behind the present petrol pump, the site of the present VI and new type III quarters and then meeting the present south-north main road (Fourth Avenue) near the main entrance gate of the institute offices.



IIT/K CAMPUS MAY 1963 OLD & NEW LANDMARKS PARTIAL SKETCH
 --- Means Under Construction.

Of course there were not inner or outer boundary walls in the campus at that time. We would often walk along the brick road, as described above (see map) and, after reaching the south-north (fourth) avenue, march across the field to reach our offices in the workshop buildings; and this we did frequently during the hot summer months of 1963.

The workshops were the only office space available till July 1963. Even the Director and the KIAP Leader used to sit there. The library was located in Workshop I.

When the school opened in July, the population in the campus suddenly shot up from two to four figures. Hall of Residence I was the only student hostel ready at that time, no. II being still under construction. With the students around, the main entrance road, still unmetalled and ending upto Hall I, came to be used more frequently. The bend in this east-west Main Drive near the SAC/Campus school crossing was due to some alterations in the architect's plan. The originally planned locations of the Computer Centre and the Lecture Hall complex were interchanged. The LH complex needed more space, and the main road had to be pushed back to the south by a few metres. Hence, arose the non-alignment or bend in the main street.

The Western Lab was the first building to be completed during the first academic year in the campus; all the departmental offices moved therein. Prof. C.N.R. Rao, the future F.R.S., was planning his experiments without any laboratory or any graduate student. We metallurgists were planning big things even without a microscope. When the fourth year students got nervous, we sent them to B.H.U. for doing some experiments.

Indeed we were brave people putting up brave faces inspite of having literally very little infra-structure around us. We were excited that the first (baby) computer IBM 1620 was coming to the campus. Even Dr. Kelkar attended Dr.V. Rajaramans's lectures on computer programming delivered in WL 105. Makeshift arrangements were made to provide the first few big class rooms in the space WL 101-104. There were intensive discussions about the curriculum and the future PG programme which was yet to be initiated.

There was excitement all around. Every week we were ordering new equipments and welcoming brilliant colleagues as fresh recruits. The work ethics was excellent.

Gradually, controversies cropped up about which I would not write here, since these were post-1963 developments. Besides, these controversies were related to the academic and administrative matters, and I wish to restrict my article to the social aspects of our early campus life.

In May 1963, we saw the Electric Sub-station I ready and also a few temporary huts (behind the Hall II under construction) for the dhobies serving the students and the community. Nine blocks of 72 type II quarters had been constructed, but all the fittings were not yet ready. In a hurry the first block of eight quarters (201-208) was made ready for occupation by: the Health Centre (201,203), its first medical officer Dr. M.B. Borwankar (207), Mr.T.D. Taneja of the Civil Engg. Deptt. and the N.C.C. (205), Dr. S.N.Tandon and another Warden of Hall I (202,206), and the Security Officer (204) and his office (208). Incidentally, Mr. T.D.Taneja who moved in the campus in August 1963, holds the record of staying in the same residence in the campus for 25 uninterrupted years.

During the 1963-64 academic year, some more type II and some type IA and I houses were made ready for occupation. The residents of the latter houses boosted the activities and attendance in the old temple adjacent to the type I quarters and the Nankari village. The nursery which already had a large number of fruit and flower plants thrived with horticultural activities.

Social and Cultural Interactions

Our social interactions in the campus have been simple, cordial but never very intimate. The main attention being riveted to the academic life, the Indo-American Programme, and the aspirations of the graduating students to go abroad, the social needs of the community were always relegated to the background. The schools for the young children came up much later; their high qualities could not be sustained very long. During the early days, the medical facilities were inadequate (are these adequate even now?), the transportation system woeful, and the cultural activities almost non-existent. It is possibly because the tax-payers conceived that the academic people should indulge 'in plain living and high thinking', that the administrators did not give priority to the early installations of a first rate shopping centre or a good auditorium in the campus. Bedevilled with instances of dispute, collapse and death, our auditorium was still not ready in November 1988, when this part of the article was written.

Inevitably, the faculty and staff, not satisfied with the students' CULFEST, started grouping themselves into provincial and linguistic associations. It is too late in the day to bemoan that we should have started a single community club encompassing all linguistic and religious groups. Dr. Kelkar did have the idea of trans-cultural solidarity

when he wanted the Faculty Club premises to be used as an all community centre; but neither he nor the faculty did anything to implement this idea.

Nevertheless, the activities of the linguistic groups have definitely been the silver linings amidst the dull and dark cultural life in the campus. These groups have been far from 'parochial', a term used by a colleague of mine in a public meeting in the campus. These linguistic groups have been the only forums where the faculty, the staff, their family members and the IIT/K students have cordially met each other on an equal footing. These groups have added a feather in their cap by combining to constitute a federating apex body 'Indian Languages Society'. ILS conducted during 10-12 December, 1982, a national seminar and its publication 'Profiles in Indian Languages and Literatures' has been internationally acclaimed and hailed by esteemed persons such as the President of India. For this publication, 27 articles were contributed by national experts on scripts, regional languages and literatures, philosophy of language and socio-linguistics. The book earned rave reviews in the national press.

Giriraj Kishore, ex-Registrar of IITK and a very reputed Hindi literateur, supported ILS and was eventually honoured as a Padma Shree.

The annual Kalipuja festivities have been arranged by one of the constituent groups of the ILS. I gratefully acknowledge that Prof. M.V. George and Sarvashree S.K.Jain, T.D. Taneja, R.C. Adhikari and Shishupal considerably assisted me in raking up the memories of the bygone days. I am grateful to all of them.

III

SOME RESIDENTS AND VISITORS IN THE IITK CAMPUS

After recording some early recollections about our campus life, we have made a brief comment about the 'Social and Cultural Interactions' in the campus. Some amplification of this latter phenomenon may be done through illustrations of some residents and visitors in the IITK campus during the last century. Our discussions and references may be categorised under three headings: (a) Socio-Political Awareness (b) Musical Pursuits and (c) Spiritual Awareness.

We discovered quite early, that many (not all) of our colleagues, kamacharies and even faculty, and students, were not convinced about the essential link between the specific extra-curricular interests and activities such as the aforementioned three, and academic creativity and excellence. Fortunately, the link has been endorsed or justified in written statements of some of our colleagues who achieved academic excellence

working in the campus: CNR Rao (vide pp. 154-159) in An Eye For Excellence or AEFÉ), TV Ramakrishnan (AEFE, 159-168), D. Balasubramaniam (174-180), D. Ramakrishna (196-201) etc. We have also on our side the Founder-Director of the institute and Professor C.V. Raman the Nobel Laureate (1888-1970) who visited us and delivered a lecture on the Romance of Colour in L-7. Raman exhibited child-like wonder at the mystery of vision, colours of roses, begonia and red oleander (the theme of his last paper published in Current Science, 38, 503, 1969).

Dr. P.K. Kelkar also ‘thought of landscape as an important feature, and as a result there was a riot of colour on the campus for nine to ten months in a year including the wind-blown Laburnum, Pride-of-India blossoms, the delicate fragrance of Alstonia in late October, and hundreds of flowering shrubs, cacti and roses’ (AEFE, 15).

SOCIO- POLITICAL AWARENESS

Prof. Homi Bhabha, father of the Indian atomic energy programme, ‘paid a 24 hr. visit to IITK in May 1965’, strongly supported our campus beautification programme and personally discussed with me, in my laboratory in the Southern Lab, the scope of the very high intensity magnetic separators in mineral beneficiation. He was extremely critical of the CSIR approach of R & D in India viz, to build huge infrastructure of research before identification and recruitment of able personnel. (vide his last lecture on 07 January 1966 published in Science and Culture, July 1966, p. 333-342). Shanti Swarup Bhatnagar and Jawaharlal Nehru had expired by that time, and we lost Dr. Bhabha also on 24 January 1966 in the air crash over Mont Blanc in Switzerland.

During the 1950’s, we had been inspired by the genuine science leaders such as Meghnad Saha, J.D.Bernal, JBS Haldane etc who had Marxist or democratic socialist backgrounds. Haldane ruefully commented upon the emergence of a new group of scientist-politicians in India. My 1969 book SCIENCE IN INDIA and an article therein ‘Quo Vadis Indian Science’ was widely noticed and approbated.

Around that time (1969-70) Professor A.P. Shukla stood up for the rights of hundreds of retrenched workers. A minority amongst the faculty supported him, but the rest remained neutral. Both he as well as Professor B.L. Dhoopar representing the R.S.S. were arrested during the ill-famed Emergency. The famous Jay Prakash Narayan delivered in L-7 a very stimulating speech.

During the 1980’s, A.P. Shukla, Basanta Sarkar, P.R.K. Rao, Amitabha Ghosh and myself collaborated to promote teaching and research in the area of History,

Philosophy and Sociology of Science. During the 1981 Convocation, Professor P.K. Kelkar was an invited 'Visitor' who exhorted the institute to open Centres of Studies and Research in the areas of History of Science and Civilization in India. But there was no official response to his suggestions! A Sanskritist (Sulekha, my wife) and an archaeologist teamed up with me in writing an encyclopaedic and internationally acclaimed three volume monograph on Minerals and Metals in Ancient and Medieval India (1996). Professor R. Balasubramaniam started his phenomenal work on Delhi Iron Pillar which has made him internationally famous.

Several selfless social workers in IITK were the epitomes of social awareness in the campus. As indicated in the AEFÉ (pp. 148-49), Shishupal 'stood out as a very remarkable person', a transport department bus driver honoured by the entire community for his selfless service, utmost friendliness to the students and campus children. Shishupal was specially felicitated by the Indian Languages Society. The inspiring legacy left behind for the Nation by the Indian National Army (INA) and its architect Netaji Subhas Chandra Bose reached our campus through its two important representatives. Shishupal was one of them; Captain Laxmi Sehgal, the Commander of the Women's Brigade was the other. She lived in the city of Kanpur and often visited the campus. I still recall her most inspiring and moving speeches in L-1 and L-2 on the INA and Netaji. Peter Fay, the Visiting Professor of History from CalTech wrote a book on INA and the Sehgal.

Meera Parasnis, wife of Professor A.S. Parasnis contributed notable selfless service for the campus school but the rapport between the Central School (Kendriya Vidyalaya) authorities and the campus residents and parents was always tenuous. Most of the faculty and many staff members now (2009) send their children to Delhi Public School in the Kanpur city instead of the Kendriya Vidyalaya on the campus! (AEFE, p. 280).

A group of social activists have laboured hard for the 'Opportunities School' in the campus meant for the underprivileged community. Srish Yadav, Vijaya Ramachandran (daughter of President Venkataraman and wife of Professor R. Ramachandran of the Physics Department), Amit Neogi and many others combined their spiritual pursuits with the Herculean task of educating the poor children of the daily wage construction workers in the campus. More about spirituality-related activities later.

MUSICAL PURSUITS

The entire IITK community often interacted and met on the plane of music and arts. The faculty, staff and the students appreciated the early (1963) pioneering efforts of Dr. M.B. Borwankar who often used to mix medicine with the tonic of music, and was instrumental in bringing the musical giants like Vinayak Rao Patwardhan, Narayan Rao Vyas etc. to the Lecture Hall Complex, Visitors Hostel Dining Hall etc. These two musicians were themselves disciples of the great Vishnu Digambar (VD) Paluskar. They had tutored VD's son D.V.Paluskar (deceased at that time) another great, and used to come to IITK to meet DV's son, a student at IITK. Before starting their grand performances, they would unfailingly lament that DV's son was not learning Music, when we assured them that Mechanical Engineering is equally good and promising a profession!

Additionally the two aforesaid musicians had one more attraction to the city of Kanpur itself: the presence of one of their gurubhais, a disciple of the great VD, Pandit Shankar Bodas. Shankarji's son Kashinath and daughter Veena were great talents even at that time and taught music to many children in the campus including our son Sandipan.

Veena married an IITK alumnus and faculty H.V. Sahasrabuddhe and became part of the campus community. Later, she migrated with her husband to the Pune University and IIT Bombay. Through her performances in Indian classical vocal music (highly praised in the media and by Pandit Ravi Shankar etc.), Mrs. Veena Sahasrabuddhe has become a household name in India. The Films Division of the Government of India has produced a biographical documentary on her directed by Firoze Chinoy.

While at the IITK campus, Veena enjoyed the very good companies of several other lady musicians such as Veena Shukla (wife of Dr. A.P.Shukla), Mala Chatterjee (wife of Dr. P.K. Chatterjee) etc. Mala was a product of the Shantiniketan School of Music, and an authority of Tagorean songs. These ladies made our campus life sweet and culturally rich. Our children simply adored their 'aunties'.

Another Borwankar (Dr. Jay of the Mathematics Department) enriched our music life in the campus. He was instrumental in bringing many musician stalwarts to perform in the institute: Ravi Shankar, Bismillah Khan etc. Dr. D Balasubramanian has given an excellent account of the IITK Music Circle and the rich musical life in the campus (AEFE, pp. 177-179). How sweet is memory!

SPIRITUAL AWARENESS

Bithur or Brahmavarta on the Ganges is the famous pilgrimage centre where Rāmāyana is said to have been written by the great poet Valmiki, and where Mother Sita, the divine consort of Lord Rama used to stay for a few years with her two children. The road from Kanpur to Bithur proceeds grazing past the village of Kalyanpur, the ‘auspicious’ village where IITK is located. During 1967, one Grover from Bareilly, a student in the Metallurgy Department, proposed that the residents of the campus may discuss spiritual matters under the banner of a ‘Vivekananda Samiti’. Professor A.V.S. Prabhakara Rao of the Civil Engg. Department came forward to provide leadership and guidance to this movement. Swami Vivekananda’s gurubhai, Swami Vijnanananda , a direct disciple of Sri Ramakrishna, and the Fourth President of the Ramakrishna Math and Mission (RKM) had established a spiritual centre of the RKM near Gumti No.5 way back in the 1930’s. This centre has guided the Vivekananda Samiti of IITK over the decades.

The campus has been blessed by the visits of the Tenth President (of the RKM) Swami Vireshwarananda and the Thirteenth President, the renowned Swami Ranganathananda, who received ‘Indira Gandhi Award for National Integration’ on 31 October 1986 from the President of India. When Professor R.N. Dogra became the Chairman, BOG in 1980 , he had specially invited Swami Ranganathananda to deliver a series of lectures on Vedanta and the Universal Religion. Apart from the largely attended evening lectures in L-7, Swamiji conducted early dawn discourses on the Katha Upanishad sitting on the dewy green lawn of the Visitor’s Hostel.

The spiritual discourses of the Vivekananda Samiti were so inspiring and beneficial to the students that some of them entered into social service programmes to aid and educate the under-privileged children in and around the campus. Quite a few amongst the outstanding students of IITK have embraced monasticism in the RKM e.g., Dr. Shrish Yadav, Ph.D. in Computer Science from IITK is now renamed as Swami Sarvottamananda. Another gold medalist Mahan Mitra (5 year M.Sc. Programme in Mathematics), obtained his Ph.D. from Cal Tech in U.S.A. and has also joined RKM as a monk.

Immediately after the ill-famed demolition of the Babri Masjid in Ayodhya there was a public and inconclusive debate between A.B. Bardhan the CPI leader and Arun Shourie our Rajya Sabha Member, on Swami Vivekananda’s position on the Hindu-Muslim tension in the sub-continent. Shourie came to IITK and delivered his Kelkar Alumini Lecture on 20 February 1993. Professor PRK Rao, myself and many others met

him in a separate group discussion where he suggested that Swami Vivekananda was ‘not a socialist’. I pointed out that his view was erroneous since Swamiji himself had written that ‘I am a socialist’! It is not so easy to evaluate this great spiritual giant who has been hailed by the United Nations as the ‘Teacher of Humankind’. RKM has started ‘Vivekananda University’, a national and international enterprise, in which some of our ex-students are participating as teacher-monks, simultaneously pursuing spiritual quest and professionalism in different branches of science, technology and humanities.

IV

‘Excellence’ merely describes the state of attainment, not its content, which is better described, in the academic context, in terms of originality, joyous creativity and a syncretistic approach. Joseph Needham pursued Swamiji’s concept of syncretising the essential elements of human civilization: Science, Spirituality and Socialism. I carried this idea from the last lecture that I delivered at IITK in 1995 to my subsequent research on history of science and civilization conducted in The Asiatic Society, Kolkata, since 1995.

There was never any doubt in my mind that the natural inclinations for history, social awareness, languages and literatures, music, spiritual quest etc are fully consistent with the aspirations for scientific research and technological innovations. I personally developed this conviction in my mind through the three years’ (1960-63) association with my alma mater, Massachusetts Institute of Technology (MIT), where I listened to the serial lectures of our teacher Aldous Huxley and later corresponded with him, where the Nobel Laureates in Physics, Chemistry, Biology and Economics abounded, and yet there were curricular courses in Swimming, in Music, Music Appreciation in a special Music library cum auditorium, where the Universal Church hosted weekly deliberations on Christianity, Judaism, Buddhism, Islam and Hinduism. I always felt that IITK could easily replicate such golden traditions. Sadly, the community and the institution did not pay heed to Professor P.K. Kelkar’s 1981 Convocation Speech in which he recommended the institution of three new Centres of Advanced studies on (a) History, Philosophy and Sociology of Science (b) Educational Policy and (c) History of Civilization. Should we not opt for more collaborative research in our developing society, more for multi-authored papers and monographs, to boost the quality of our research, rather than cut-throat competition, ‘ruthless’ rat race, individual glories and secretive patents blindly aping the developed nations, constituting the only approaches for excellence.

Excellence in scientific and technological research demands life-long inquisitiveness, dedication and collaborative efforts. In the area of my specialization that is Mineral Engineering, more than a dozen investigators in IITK, faculty and students in more than one department, established a tradition, a school of international stature and fame (vide S. Ranganathan's article in Metallurgy in India-A Retrospective, NML, 2001, pp. 194-209).

While deliberating on 'Romance of Colour' in L-7 at IITK, Professor C.V. Raman the Nobel Laureate asked us to love Nature and ponder over some basic questions. Why does sea water appear blue? Why is something else red? What is 'redness' and its interaction with the brain? What is colour perception? What is consciousness? Professor Raman exhorted the students to enjoy the colour and fragrance of flowers in the campus. The theory of fragrance and the fragrance perception are also exhilarating topics of research.

There is one message commonly inherent in the teachings of Rabindranath Tagore, C.V. Raman, P.K. Kelkar and Veena Sahasrabuddhe. All of them submitted that the primary purpose of any creative activity is aesthetic joy, collaboration and not a suicidal rat race! I conclude by thanking the Indian Institute of Technology Kanpur, where I was a 'visitor' for 32 long years, for allowing me to visit this beautiful place once more, and deliver the 2009 E.C. Subbarao Distinguished Lecture. Thank you and wish you a happy journey towards the Centenary Celebrations of 2060! May God bless all of you!