

Hundred Years of University College of Science & Technology,

Calcutta University

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The establishment of the University of Calcutta in 1857 was essentially a response to the demands of the time. It was founded on January 24, 1857 by the incorporation of an Act of the Legislative Council of the then British India. The idea did not immediately find favor among all sections of the rulers of our country. In fact, the Court of Directors of the East India Company did not consider it possible 'to sanction the institution of a University in Calcutta.' When Sir Charles Wood (1800-1885) became the President of the Board of Control of East India Company, he took efforts on spreading education in India. In 1854, he sent a dispatch to Lord Dalhousie, the then Governor General of India. It was ultimately passed by the education department (known as Wood's dispatch) which actually cleared the establishment of the University. Charles Wood, in his despatch, made a number of recommendations out of which the following two were very important.

1. An education department was to be set in every province.
2. Universities on the model of the London University be established in big cities such as Bombay, Calcutta and Madras.

The University Act, Act No. II of 1857, was passed by the Legislative Council and received the Governor

General assent on 24 January 1857. The Act emphasized that the University was to be an imperial University. The rulers had the intention that the University would cater to the needs of the nobility and upper classes of India. The experience of the revolt of 1857 taught them to have an educated upper class. William Ritchie, the then Vice-Chancellor of the University of Calcutta, said in his convocation address on 6 March, 1860:

**'Educate your people from
Cape Comorin to the Himalayas,
and a second mutiny of 1857.....
will be impossible.'**

Whatever may be the intentions of the British rulers, the University took its path in a different way. Henry Maine, the fourth Vice-Chancellor of the University understood it clearly and mentioned:

'The fact is that the founders of the University of Calcutta thought to create an aristocratic institution; and, in spite of themselves, they have created a popular institution.'

(Convocation Address, 17 March, 1866)

About the students, the Hunter Commission rightly pointed that 'a very considerable majority belong to the middle classes.'

Nearly for half a century, the University was not legally empowered to conduct teaching programmes. It was merely an examining and degree-granting body. All the teachings were done in different affiliated colleges. Only after the introduction of University Act 1904, the Universities of India were empowered to appoint professors and lecturers in order to initiate their teaching and research programmes. In fact, after the appointment of Sir Asutosh Mookerjee as Vice-chancellor, the University of Calcutta gradually occupied a front ranking position in post graduate education and research in almost all the branches of knowledge. The process of development of P.G. teaching in the University took place in a number of stages. In the first stage, instruction at P.G. level was imparted through Professors of affiliated colleges, appointed as University lecturers. The initial appointments were as follows:

C. Little in Mathematics

J. C. Bose & C. W. Peake in Physics

J. A. Cunningham in Chemistry

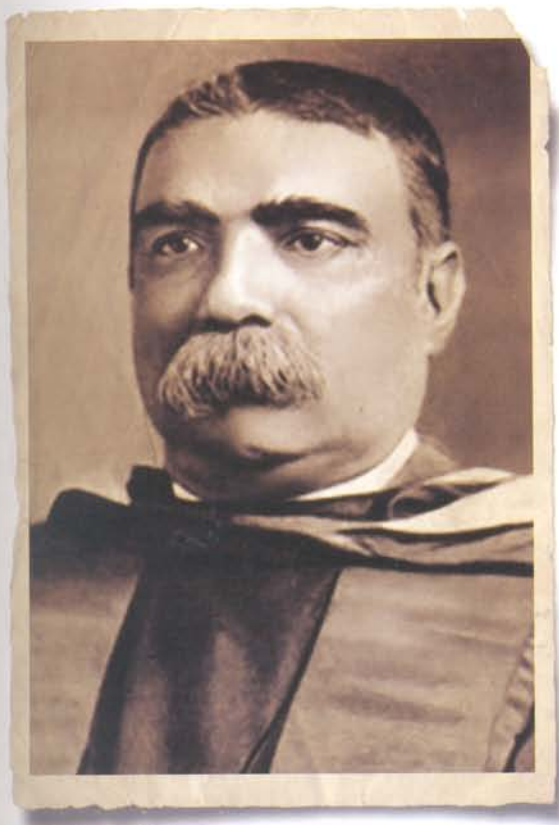
S. C. Mahalanobis & D. McCay in Physiology

There were some people in the reader posts also. e.g., Thomas H. Holland in Geology, A Schuster in Physics and C. E. Cullis in Mathematics. It was stated earlier that the University was certainly established to promote western knowledge and learning in colonial interest. However, it ultimately emerged as the nucleus of a range of academic activities which contributed to the development of Indian Science & Technology to a great extent.

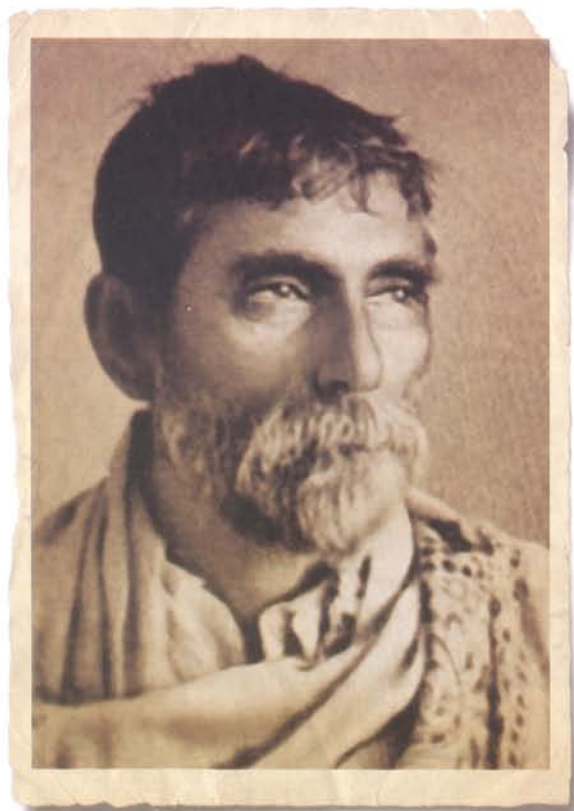
In the second stage, University Chairs were initiated. The first chair, in the field of science, was the Hardinge Chair of Higher Mathematics created in 1912 with the government aid. The first appointee to the Chair was a distinguished mathematician, Andrew Russell Forsyth, F.R.S.

Charles Hardinge served as Viceroy of India from 1910-16. He made an announcement regarding the introduction of a Chair in Mathematics during his convocation address held in the University of Calcutta. It created a sensation among some rich & noble people in and outside Calcutta. In 1912, Sir Taraknath Palit, an eminent lawyer executed two Trust Deeds in favor of the University. In the form of money, building and lands, the aggregate value was fifteen lakhs of rupees. One part of it would be utilized for the foundation of a University College of Science & Technology. Two Chairs, one of the Chemistry and the other of Physics were to be maintained out of the income of the endowment.

On 8th August, 1913, Sir Rashbehary Ghosh, another distinguished lawyer as well as alumnus of the University came forward with an offer of ten lakhs of rupees for further advancement of the scheme for the foundation of the University College of Science & Technology. Four Chairs were to be created out of the income of this second endowment. The subjects were Applied Mathematics, Physics, Chemistry and Botany with special reference to Agriculture. It should be noted that the first holder of the Palit Chair of Chemistry was Acharya Prafulla Chandra Ray and that of the Chair of



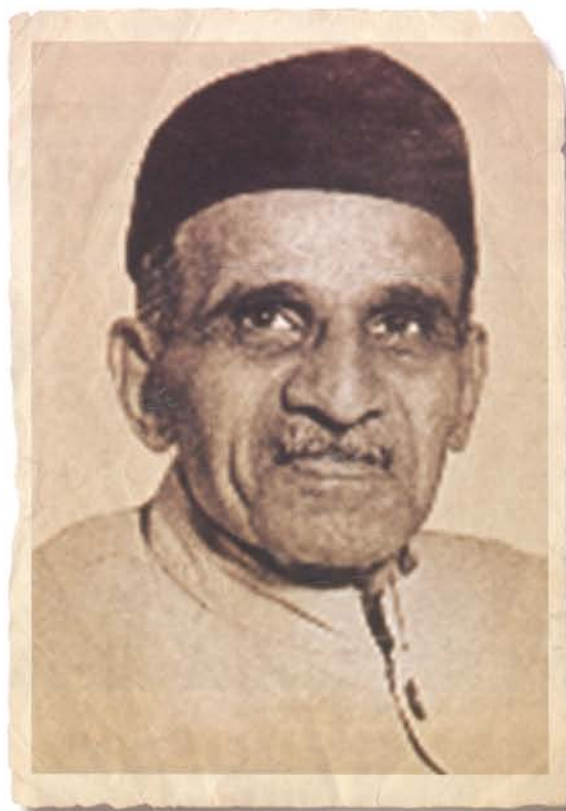
1. Sir Asutosh Mookerjee



2. Acharya Prafulla Chandra Ray

Physics was Sir C. V. Raman. The scholars who first adorned the Rashbehary Ghosh Professorships in the above mentioned subjects were Ganesh Prasad, Debendramohan Bose, Prafulla Chandra Mitra and Shankar Purusottam Agharkar respectively. None of them were unknown in the world of science that time. Just before independence, in the year 1946, the most celebrated Science Journal of the world, 'Nature' published a short report entitled 'Botany Figure Prof S P Agharkar at University College of Science, Calcutta: Prof. S. P. Agharkar'.

'Prof. Shankar Purusottam Agharkar*, of the Unversity College of Science, Calcutta, retired after thirty-two years of service. Prof. Agharkar was appointed Ghosh Professor of Botany in 1914 and deputed to Germany for further studies. In Berlin he studied under A. Engler, L. Diels, G. Haberlandt and others and obtained the doctorate of the University in 1919. In the meantime, with the inauguration of the Post-Graduate Department of the University of Calcutta, the palatial residential building of the late Sir Taraknath Palit at Ballygunge was converted into the Biological Laboratory and Prof. Paul Brühl was



3. Prof S P Agharkar

placed incharge of the Botany Department. He equipped it on a large scale in different branches of Botany and initiated research work by students at the University. Prof. Agharkar returned to the University in 1920. In 1929, he took complete charge of the Department after the retirement of Prof. Brühl. From then onwards, Agharkar succeeded in increasing the number of members of the teaching staff for the different branches of Botany, so that to-day facilities for research in mycology, cytogenetics, physiology and paleobotany, etc., are available in the laboratory, and much good work has been published.' Nature, 158, p. 125 (27 July, 1946).

After retirement, Prof. Agahrkar joined MACS (Maharashtra Association for the Cultivation of Science) research institute, established in 1946, as its founder director. In memory and honor of the founder director, this DST funded autonomous institute has been renamed in 1992 as 'Agharkar Research Institute.'

For reasons of its own, the Government of British India lost interest in the further growth of the University

* S. P. Agharkar (1884-1960)

College of Science & Technology. Repeated requests of the University for Financial Assistance from public funds were turned down by the government. But the University was firm on its decision. University College of Science & Technology had to be expanded by all possible ways. Sir Asutosh, the then Vice-Chancellor assured the civil society that the scheme for the foundation of a University College of Science & Technology could not be abandoned. The acceptance of the generous gifts of Palit and Ghosh could never be disavowed.



4. Prof C V Raman

The University had to provide laboratories, workshops and other equipment. Though the colonial rulers turned down all proposals for initiating infrastructure necessary to begin post-graduate education and research in Science & Technology, the programme went ahead under the leadership of Sir Asutosh. It was decided to begin constructional works with the help of its own funds. The foundation stone of the building designed for the University College of Science was laid by Sir Asutosh on 27 March, 1914 on the land donated by Sir Taraknath Palit at 92, Upper Circular Road (presently

known as 92, Acharya Prafulla Chandra Road). The University proceeded to meet the cost of erection from its reserve funds. It must be remembered that the centre for modern science education and research received its first footsteps, only four days before Sir Asutosh relinquished charge as Vice-Chancellor. The situation during that period may be found in a report published in 'Pravasi', a well known Bengali periodical edited by Ramananda Chattopadhyay:

Kartick 1322 Bengali era

Science College of the University of Calcutta

In a meeting of the Senate of Calcutta University, Sir Asutosh Mukhopadhyay said that the work for the Science College could not start due to absence of support expected from the Government of India. Suddenly, many senators, native as well as white, desperately claimed.....Milord, we are not at all associated with the opinion of Sir Asutosh. We would never say that the Government is withdrawing support. However, it is the truth that the tree planted by the donations from Sir Taraknath and Sir Rashbehary is yet fruitless only due to lack of funds. The Government should take care so that it bears fruit. Of course, the spark of life may be breathed by donation from Sir Rashbehary, who is still with us, or any other beneficent donor. Yet that would cause as much shame to the Government as it would be a source pride to the people of our country. This desire to save a small amount of money would bring nothing but condemnation for the Government.

Recently, classes have started in the Department of Chemistry with a few students.

In 1916, a committee was formed under the chairmanship of Sir Asutosh Mookerjee to review the arrangements for post-graduate teaching in the University of Calcutta. On December 12, 1916, the committee submitted a unanimous report which outlined a scheme for the consolidation of post-graduate studies within the University. The committee had its members, Prof. P. C. Ray, Prof. B. N. Seal, Prof. C. J. Hamilton, Principal George Howells, Dr. Henry Hayden, W. W. Hornell, G. Anderson and Principal W. C. Wordsworth. We may quote a very important recommendation from the submitted report.

'Control of higher teaching in arts and science should be placed entirely under the University.'

It was also recommended that 'the affiliation of Colleges in Calcutta for M.A. and M.Sc. work should cease and that the organization of post-graduate instruction of all kinds should be considered to be the duty of the University.'

The entire report was discussed in detail in four consecutive meetings of the senate (17 March, 31 March, 14 April and 16 April, 1917) and adopted accordingly. Ultimately on 26 June 1917, Government of India accorded their sanction to the regulations for post-graduate teaching in various branches of Arts and Science. The regulations came into effect on and from 1st September, 1917.

During the second tenure of Sir Asutosh as Vice-Chancellor of the University, he mentioned in his convocation address on 22 March, 1922:

'We were created... as a merely examining corporation, movement was set up under the wise leadership of one of our most brilliant graduates, the late Mr. Anandamohan Bose, to approach the Government with a request that the organization might be transformed into a Teaching University. But... what was then summarily rejected as a paradox, later became an axiomatic truth, and in 1904 when the Indian Universities Act came to be passed, it was ordained that all the Indian Universities should be deemed to have been established for the promotion of study and research, with authority to appoint Professors and Lecturers for the instruction of students and to erect, equip and maintain University libraries, laboratories and museums.'

After the sanction of the regulations for post-graduate teaching in various branches of arts and science by the Government of India,

'mark a new stage, a new epoch in the history of the foundation and development of a great Teaching and Research University in Calcutta.' (From the same convocation address).

In the meantime, the new two-storied building was completed at 92, Upper Circular Road. At the beginning, there was an idea of starting post-graduate Chemistry classes only. However, a batch of post-graduates who

had brilliantly passed the M.A. Examination in 1915 made a representation to the Vice-chancellor that they were preparing themselves to teach post-graduate course in Physics and Applied Mathematics. They also appealed to begin the classes in 1916.



5. Prof M N Saha

Let us quote from the convocation address given by Professor S. N. Bose in the University of Calcutta in 1962 ('University Science College and Science Education in Our Time').

'Sir Asutosh... took a great step forward and laid the foundations of the University Colleges of Science & Technology. There is however a peculiar condition attached to the Palit and Ghosh endowments. The Professors have to be Indian scientists.

C. V. Raman elected for the Palit Chair in Physics, was then working in the Finance Department of the Government of India and wished to have some time allowed him to make a clear decision..... Sir P. C. Ray agreed to be the Palit Professor in Charge of the Chemical Laboratories only after his retirement in 1915. Professors D. M. Bose and Agharkar selected for the Ghosh Chairs of Physics and Botany respectively wanted to be sent to Germany for their own researches. The University would have thus to wait for sometime before the scheme for the higher teaching of science could mature. In the meantime, the First World War broke out in 1914, and both Professors Bose and Agharkar were interned as aliens. There were few graduates.... had approached Sir Asutosh for advice and guidance.'

Sir Asutosh decided to introduce post-graduate classes in Physics. He had won over his colleagues who had doubted the wisdom of this hasty act. They would have preferred to wait till C. V. Raman joined, or till the

interned Professors returned from abroad. The brilliant youngsters supported Sir Asutosh as a result of which the post-graduate departments of Chemistry, Physics and Mathematics were opened in the middle of 1916.

According to Bose, 'In Physics the details of the programme were worked out by the Lecturers. C.V. Raman joined a few months later.'

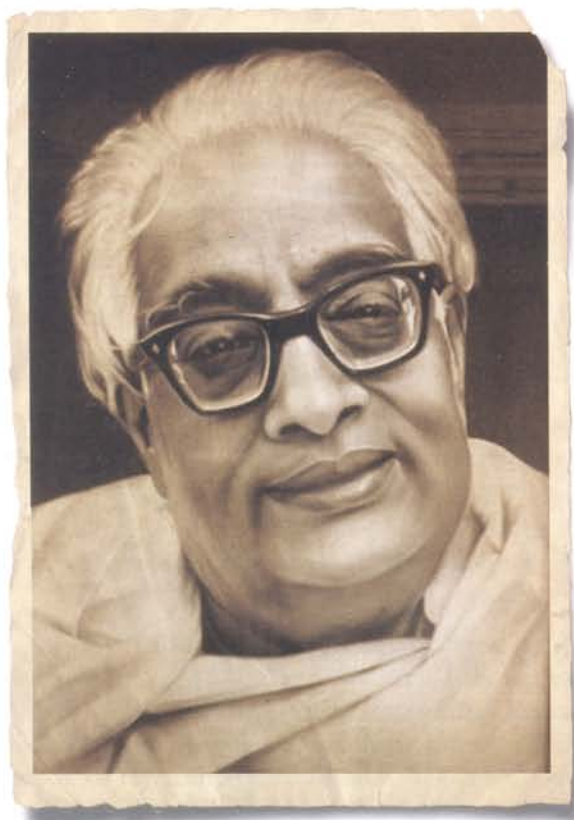
Amongst the lecturers appointed were S. K. Banerjee (Applied Mathematics), M. N. Saha, S. N. Bose and S. K. Mitra (Physics), J. C. Ghosh, J. N. Mukherjee and P. Ray (Chemistry). The Palit's residence at 35, Ballygunge Circular Road housed other post-graduate departments of science.

It must be noted that the department of Psychology was also founded in the same year (1916). The idea was first mooted in the mind of Sir Asutosh himself in 1905. The syllabus was framed by Acharya B. N. Seal and the department was initiated from January 1916 under the headship of Professor N. N. Sengupta.

This is the beginning of post-graduate science education in the University of Calcutta. It has been mentioned earlier that the government financial assistance was almost nothing. Acharya Prafulla Chandra during his address on the first day of the University Congress in 1926 mentioned that the financial contribution from the Government for University College of Science was only 2% while the rest 98% came from Indian Citizen. (Title of the address: 'Government and University').

Let us now place a brief account of establishing the post-graduate departments of Technology in 92, Upper Circular Road Campus (Presently known as Rashbehary Siksha Prangan).

In 1919, Rashbehary Ghosh donated his second princely gift of Rs. 11.43 lakhs for technological education and research. Two Chairs, one in Applied Chemistry and another in Applied Physics were introduced out of this endowment. The post were occupied by Hemendra Kumar Sen and Phanindranath Ghosh respectively.



6. Prof S N Bose

After a little later, another fund came from Kumar Guruprasad Singh of Khaira. Out of the income of this fund, three Chairs in Science (one each in Physics, Chemistry and Agriculture) were created. Meghnad Saha joined in Physics, Jnanendranath Mukhopadhyay joined in Chemistry and Nagendranath Gangopadhyay joined in the department of Agriculture.

Thus we see that by 1920, the departments of Chemistry, Physics, Applied and Pure Mathematics, Geology, Botany, Zoology, Anthropology, Applied Chemistry, Psychology and Physiology were established. The department of applied Physics came later, in the year 1925.

Running post-graduate departments, especially science & technology departments is a costly affair. During 1922, the University accounts showed a deficit of about Rs. 5.4 lakhs. But the British rulers stated that it was due to 'thoughtless expansion of the University'. It was strongly opposed by the University Community. The financial position of the University College of Science

and Technology went into a deplorable condition. Sir Asutosh, the then Vice-Chancellor for the second time did not surrender his vision. Teachers had the meagre salaries. Sometimes they remained unpaid but their devotion and leadership upheld the motto of the University ('Advancement of Learning'). Under the colonial environment, the teachers never cared for their personal benefits or security or future. We all know that C. V. Raman joined his post with much less amount of salary what he was receiving in the Accounts Department, Government of India.

Before independence, two important departments were also initiated in the University. Geography with Prof. S. P. Chatterjee as its Head (1938) and the second one was the Department of Statistics with Prof. P. C. Mahalanobis as its Honorary Head in 1941.

Sir Asutosh Mookerjee laid the foundation of the University College of Science & Technology on 27 March 1914. We have travelled a century, a century of frustration and happiness, a century with a few outstanding original innovations from the University. Presently the number of departments are much more than what we had at the beginning. For the last few years, University of Calcutta kept its fame as the second top University of all Universities of the country as well as the best one among all state funded Universities of India. People working in this Institution are firmly committed to maintain the brightness of the past legacy, also firm to equip themselves with the updated domain of in Science & Technology, the knowledge of present and the knowledge yet to develop.



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