

**Ruchi Ram Sahni to Homi Bhabha via Birbal
Sahni and Shanti Swarup Bhatnagar:
A perspective**

Arun Kumar Grover*

Panjab University, Chandigarh 160014

*(*on leave of absence from DCMP&MS, TIFR)*

ASET Colloquium Talk delivered at TIFR, Mumbai on July 12, 2013

ABSTRACT

- The Panjab University (PU), Chandigarh and the Tata Institute of Fundamental Research (TIFR) are my alma maters. I had the good fortune to contribute to the nucleation of the commemoration of Birth Centenary of Homi Bhabha at TIFR a few years ago. Destiny has now provided me an opportunity to learn and spread awareness about the rich heritage of the icons of PU via the 150th Birth year Commemoration of Ruchi Rama Sahni (1863-1948), a persona with many lives.
- Prof. Ruchi Ram Sahni (RRS), amongst other dimensions, is better known nationally via his son Dr. Birbal Sahni (1891-1949), FRS and for his mentoring of Dr. S.S. Bhatnagar (1894-1955), FRS, who were the first Botanist and the first Chemist, respectively, from India to be elected Fellows of the Royal Society, London. The Government of India has accepted to release a commemorative stamp on RRS in October, 2013.

ABSTRACT

- The Films Division is working on a documentary on RRS and 150 years of higher education in Punjab, in association with the PU, as the Government College, Lahore (now a Deemed University), the nucleus of the University of Punjab at Lahore in pre-independent India (established, October 14, 1882), was initiated in January 1864. Birbal Sahni, SS Bhatnagar (SSB) and Homi J. Bhabha (HJB) had not only supported each other, but were independently close to Pandit Nehru as well.
- I propose to enumerate inspiring facts and interesting connections between SSB and HJB during the formative years of the Council of Scientific and Industrial Research (CSIR) and TIFR, whose importance, I became conscious of since my movement to the PU Campus about a year ago.

Professor Ruchi Ram Sahni
(April 5, 1863 – June 3, 1948)



Professor Ruchi Ram Sahni (April 5, 1863 – June 3, 1948)

Prof. Ruchi Ram Sahni was born at Dera Ismael Khan barely 10 years after the British annexation of the kingdom of Punjab and lived to see India become independent. His life span covered an important part of Punjab's and India's history. **He was prominent figure in the intellectual and public life of Punjab.**

Prof. Sahni was a multi-faceted personality. He was **a scientist, an innovator, an educationist, a devoted patriot, social worker and an science populariser.** Prof. Sahni became the first Indian officer in India Met Dept. (1885-87) and, also, the first Indian science professor at Government college, Lahore (1887-1918). Late in life, he worked for his Ph.D at Rutherford's Manchester Lab. in the company of Neils Bohr and published **two single author research papers on radioactivity communicated by Lord Rutherford himself to Phil. Mag.**

Prof. Ruchi Ram was a great advocate of Science education through mother-tongue. A great votary of employment-oriented **technical education combined with management and entrepreneur skills**, he played an important role in the establishment of the **Victoria Diamond Jubilee Technical Institute in Lahore in 1897** and had the honour of delivering its inaugural address.

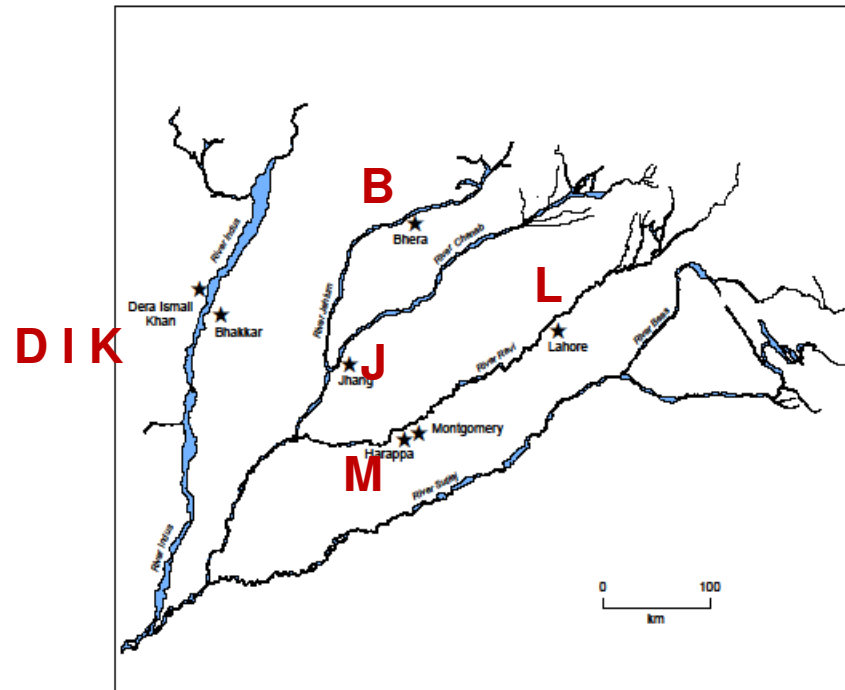
(from Compendium on RRS, P.U., Chandigarh, 2013)

Remembering Ruchi Ram Sahni

(An Extract from an editorial in 'Dream 2047' November 2012, Vol.15, No.2, Pg 33,39 by Subodh Mahanti)

R. Ramachandran (*i.e., Bajji*), while reviewing the Memoirs of Ruchi Ram Sahni correctly argued why Sahni **should be accorded as prominent as a place given to pioneers of modern India science as J.C. Bose, P.C. Ray, M.N. Saha, C.V. Raman and S.N. Bose.** Ramachandran wrote: “Prof. Ruchi Ram Sahni is not a name that people are likely to recognise –let alone an average India, not even someone from the Indian scientific community, which is indeed a pity. Though the subtitle of the book refers to him as the **pioneer of science popularisation in Punjab,** his were the pioneering efforts **in the entire country.** And it may not be an exaggeration to say that they remain **unique to this day.**”

The 150th birth anniversary of Ruchi Ram Sahni should be celebrated throughout the country. Sahni should be accorded his due place for his multi-faceted contribution in shaping modern India. The year 2013 should be declared as the Year of Scientific Temper to honour Sahni, who did so much for creating scientific awareness in the country.



Rivers and Cities of Punjab

Table 1. Ruchi Ram Sahni: Chronology

1863 Apr 5	Born at Dera Ismail Khan, now in Khyber-Pakhtunwa province of Pakistan
c. 1872	Sent to Church Mission School.
c. 1873	After about a year, withdrawn along with other boys as protest against conversions. Sent to the newly founded Dharm Prakash School.
1878 Apr	Passed middle school examination, winning a scholarship. All his studies would be funded by Government scholarships.
1878 Aug	Admitted to Government High School, Adhiwal, Jhang. Name changed from Rochi Ram to Ruchi Ram.
1879 Oct	Decided to leave Adhiwal and seek admission in the better-equipped Government School Lahore
1881	Passed Entrance examination (=Matriculation). Joined FA at Government College Lahore on 2 January 1881.
1882	Passed Proficiency examination in Arts (=First Arts) in August 1882, after merely 16 months of study, coming second. Joined BA
1884	Passed BA, standing first; awarded Arnold Silver Medal, and Fuller Exhibition Scholarship of Rs 35. Enrolled for MA.
1885	Joined India Meteorological Department on 10 January as assistant meteorological reporter without completing MA but retaining his scholarship. Stationed at Kolkata as a trainee January-March. Also Guest student at Presidency College. Posted in Simla April. Obtained M.A. in Physics and Chemistry on 9 December.

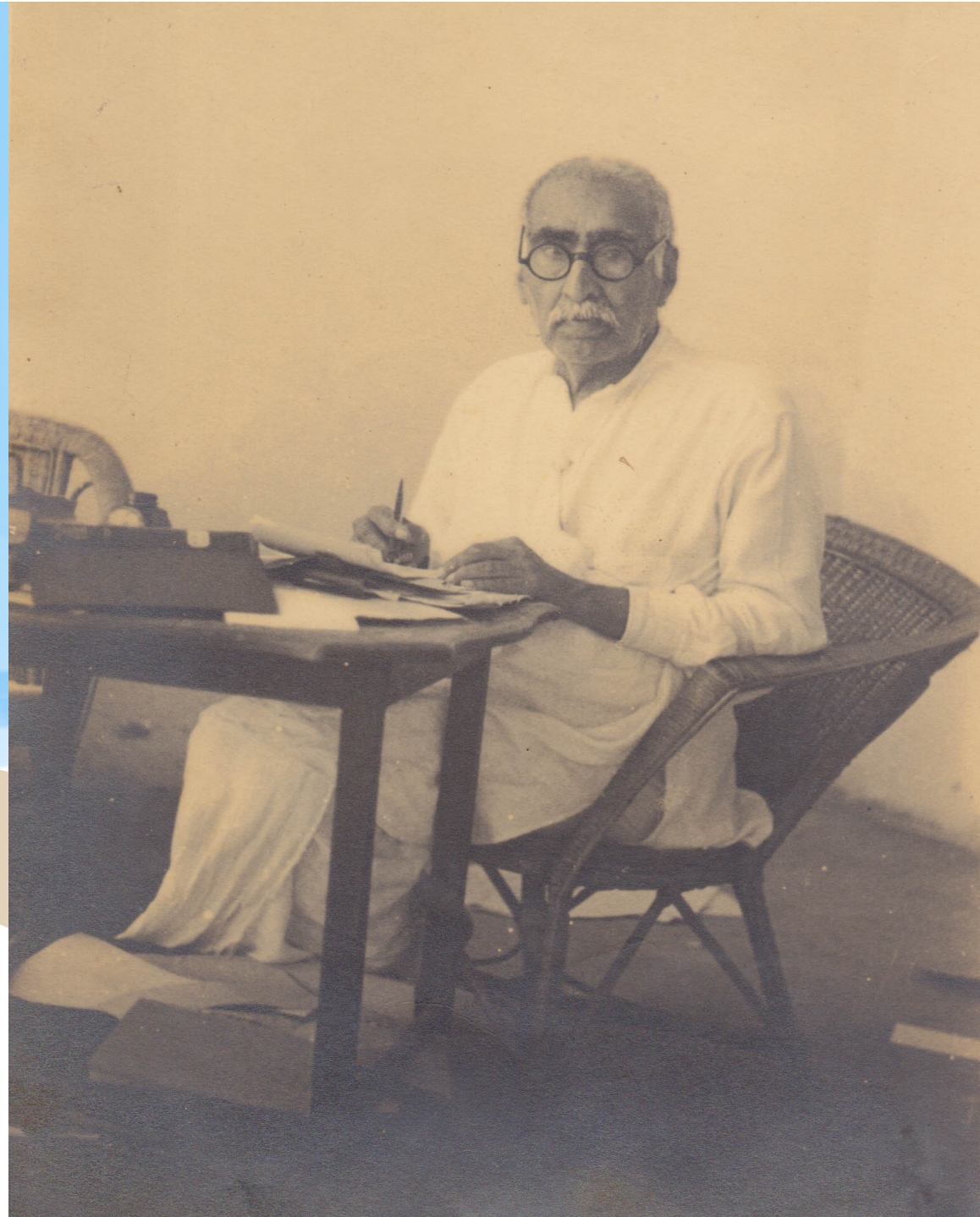
1887 Mar 31	Joined Government College Lahore as assistant professor of science (physics and chemistry) in the grade of Rs 200, with continuity in service.
1888	Establishes an instrument workshop as a private enterprise.
1890-91	Promoted to the grade Rs 225
c. 1892	Founds Anglo-Sanskrit High School in Bhera, jointly with others
1906	Physics and Chemistry made into separate departments at Government College Lahore. Ruchi Ram designated assistant professor of chemistry.
1909	Made second professor of Chemistry; awarded the title Rai Sahib 'in connection with' the Lahore Industrial and Agricultural Exhibition, Lahore,
1910	Nominated member of Dyal Singh College Trust
1914-1915	Academic connection with College comes effectively to an end in 1914. Visiting researcher with Kasimir Fajans in Karsruhe; and at Ernst Rutherford's laboratory in Manchester from August.
1916-1918	Presumably in Lahore itself but on leave of absence from. Government College Lahore.
1918	Retires from Government College Lahore at the age of 55. Made member of the Tribune Trust
1921	Returns the Rai Sahib title as a gesture in support of the Khilafat movement.
1934	Invited by C. V. Raman to be a Founding Fellow of Indian Academy of Sciences Bangalore.
1948 June 3	Died in Bombay

Grandfather: Leading Many Lives

Ashok Sahni
Professor Emeritus
Panjab University,
Chandigarh

ashok.sahni@gmail.com

Presentation at PU, April 5, 2013



Ruchi Ram Sahni (April 5, 1863 - June 3, 1948) :
The Indus Saga of a merchant family at Dera Ismail Khan

“ bought and sold wheat, wool and majith (majenta root), a red colouring material which produced a very fast colour”



Merchants, ca 1850



Sail boats on the Indus River



Ishwari devi

Brahma Sahai-Grandfather

Karam Chand- Father



Ruchi Ram Sahni



Sons



Bodh Raj: Bar-at-Law, London

Manohar Lal: Rubber Technologist, UK

Mulk Raj: PhD, ScD, Cantab; DSc Imperial College, London.

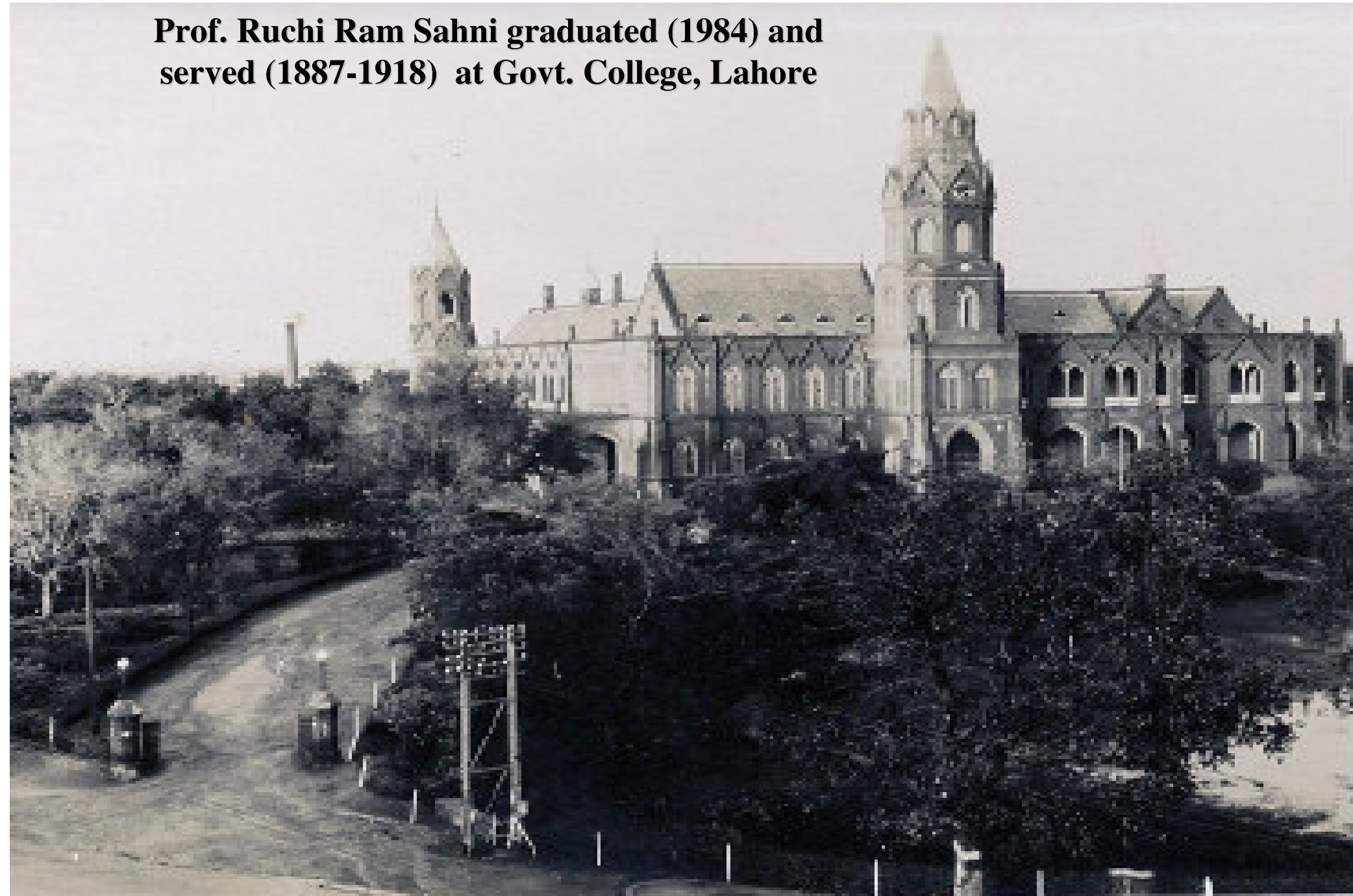
Birbal: DSc, ScD, Cantab. FRS

Bikramjit: Physician, Edinburgh, London

Daughters:

- Ram Rakhi Chandiok
- Lajwanti Sabherwal
- Leelavati Kohli- 1st woman graduate PU
- Lakhvanti Malhotra

Prof. Ruchi Ram Sahni graduated (1984) and served (1887-1918) at Govt. College, Lahore



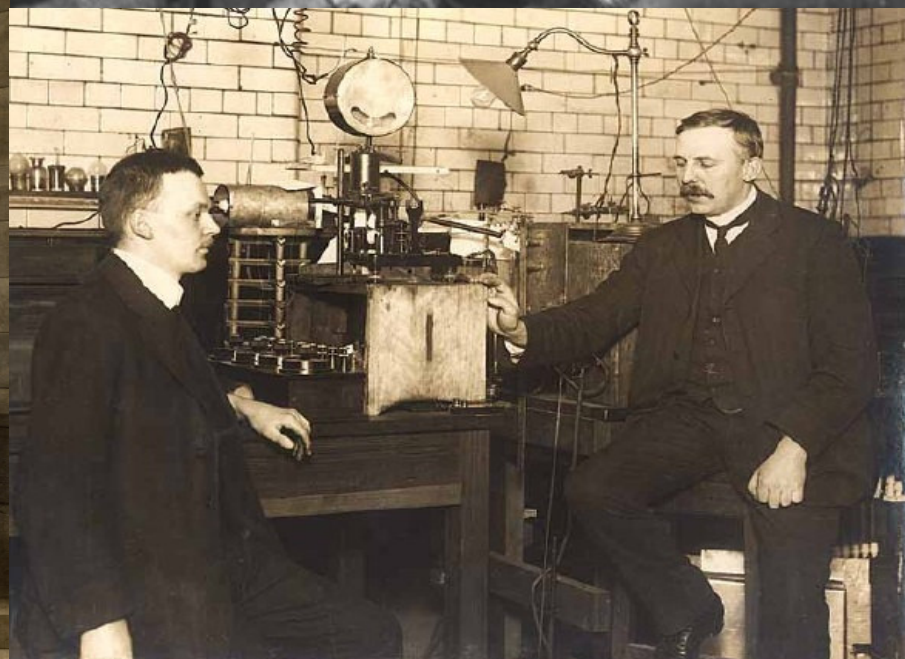
Government College - Lahore. circa 1928.

(Established January, 1864)

NEW PHYSICAL
LABORATORY
THE OWENS COLLEGE
MANCHESTER
1894



AT MANCHESTER 1914





MANCHESTER 1914-1915

**IN THE COMPANY OF NOBEL LAUREATES
AND THOSE TO BECOME!**

This photograph shows the Manchester Physics Department in 1912 and includes Geiger, Schuster, Rutherford, Moseley and Chadwick.

- Arthur Schuster, who made many contributions to optics and astronomy
- J J Thomson, discoverer of the electron
- Hans Geiger, inventor of the Geiger counter
- Henry Moseley, who identified atomic number as the nuclear charge
- William L Bragg, pioneer of x-ray crystallography
- Ernest Rutherford, discoverer of the atomic nucleus
- Niels Bohr, responsible for the first quantum theory of the atom
- James Chadwick, discoverer of the neutron
- Patrick Blackett, co-discoverer of the positron
- George Rochester and Clifford Butler, who discovered 'strange' particles
- Sir Bernard Love ll, creator of the giant radio-telescope at Jodrell Bank
- Prof Robin Marshall is in the process of compiling The Living Archive, a database of information about past and present scientists. He has also compiled a history of particle physics at Manchester

THE
LONDON, EDINBURGH, AND DUBLIN
PHILOSOPHICAL MAGAZINE
AND
JOURNAL OF SCIENCE.

CONDUCTED BY

SIR OLIVER JOSEPH LODGE, D.Sc., LL.D., F.R.S.
SIR JOSEPH JOHN THOMSON, O.M., M.A., Sc.D., LL.D., F.R.S.
JOHN JOLY, M.A., D.Sc., F.R.S., F.G.S.
GEORGE CAREY FOSTER, B.A., LL.D., F.R.S.

AND

WILLIAM FRANCIS, F.L.S.

"Nec aranearum sane textus ideo melior quia ex se flagrant, nec noster
vilior quia ex alienis libamus ut apes." *Jusr. Lers. Polit. lib. i. cap. 1. Not.*

VOL. XXIX.—SIXTH SERIES.
JANUARY—JUNE 1915.

LONDON:

TAYLOR AND FRANCIS, RED LION COURT, FLEET STREET.

SOLD BY SIEPKIN, MARSHALL, HAMILTON, KENT, AND CO., LD.
SMITH AND SON, GLASGOW;—HODGKES, FIGGIS, AND CO., DUBLIN;—
AND VEUVÉ J. BOUYER, PARIS.

THE
LONDON, EDINBURGH, AND DUBLIN
PHILOSOPHICAL MAGAZINE
AND
JOURNAL OF SCIENCE.

CONDUCTED BY

SIR OLIVER JOSEPH LODGE, D.Sc., LL.D., F.R.S.
SIR JOSEPH JOHN THOMSON, O.M., M.A., Sc.D., LL.D., F.R.S.
JOHN JOLY, M.A., D.Sc., F.R.S., F.G.S.
GEORGE CAREY FOSTER, B.A., LL.D., F.R.S.

AND

WILLIAM FRANCIS, F.L.S.

"Nec aranearum sane textus ideo melior quia ex se ita gignunt, nec noster
vilior quia ex alienis libamus ut apes." *Jusr. Lers. Polit. lib. i. cap. 1. Not.*

VOL. XXXIII.—SIXTH SERIES.
JANUARY—JUNE 1917.

LONDON:

TAYLOR AND FRANCIS, RED LION COURT, FLEET STREET.

SOLD BY SIEPKIN, MARSHALL, HAMILTON, KENT, AND CO., LD.
SMITH AND SON, GLASGOW;—HODGKES, FIGGIS, AND CO., DUBLIN;
AND VEUVÉ J. BOUYER, PARIS.

**RRS: Photo graphic action of alpha, beta
and gamma rays...p.861**

**RRS: Scattering of alpha particles
by gases , p.290**

CLASS NOTES
ON
ELEMENTARY ORGANIC CHEMISTRY.

RUCHI RAM SANHI, M. A.

G. R. COOMAWR & SONS.

Price Re. 1-2-0.

PREFACE.

This little book claims to be nothing more than what its title indicates *viz* "Class Notes" on such parts of Organic Chemistry as are prescribed for the **Additional Test** for Medical Students. Here and there, I have gone a little beyond the syllabus, but I believe that nothing which is of importance has been omitted. The parts which are not covered by the University curriculum and which may, therefore, be left out are marked with an asterisk.

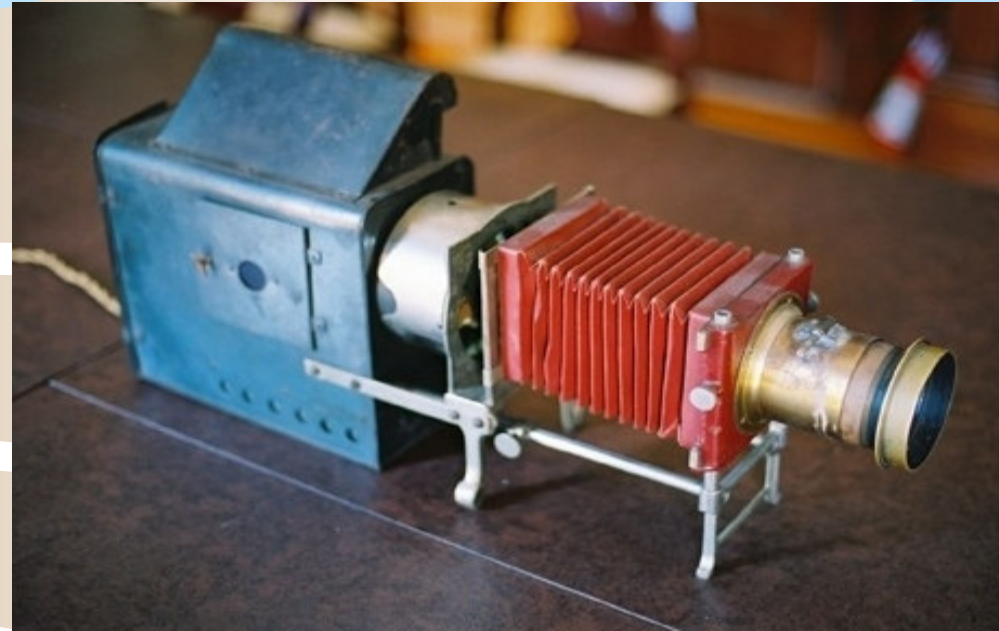
The book has been got through the press in a hurry, and I am afraid that, in spite of the kind assistance of a friend in reading the proofs, some misprints must have crept in.

Lahore. }
June, 1914. }

RUCHI RAM SANHI.

POPULARIZING SCIENCE

simple slides for illustrating such lectures as I was called upon to deliver at Simla. I smoked over a candle flame a few glass pieces cut to the size of lantern slides and then with the point of a pin traced the arrow heads long or short, as the case may be, representing the direction and strength of the wind currents as well as isobaric and isothermal lines. A lecture on the cyclones or anti-cyclones can thus be very well illustrated to a large audience with out incurring any expense whatever. The smoked slides with which my own lectures were, in part illustrated, went off beautifully. When. A little after, I joined the staff of the Government college at Lahore, I repeated these lectures. On the advice of Prof. Oman one of these lectures was written out in full and published in pamphlet form. I am sorry, no copy of this lecture is now available. It related to the monsoon rains and the cyclonic storms. In repeating the lectures at Lahore, I also varied the forms of my slides, some of which looked very well on the screen. Instead of smoking the glass plates on a candle flame, I dipped the plates in a thin solution of gum and then let them dry in the sun. the object of this simple operation was to make surface of my plates slightly rough so that it was into easy now to trace on outline of India on the plates and then draw the arrow heads, *RRS-SROAO*



Early model of a *Magic* Lantern Slide Projector and methods used by RRS to make slides

Topics: “ elements of weather, Soap-making, The water *Lahoris* drank before 1880, Pure and impure air, Electricity in the service of man, Electroplating, Glass-making, How does the telegraph speak, The Punjab and its rivers”

Entrepreneurship

- He **established a workshop** attached to the **Punjab Science Institute in 1888** and designated it as the Scientific and Technical Workshop. Lathes were not easily available in Lahore; he was able to secure two hand-driven ones from, the North Western Railway Workshop and, in due course, installed them along with other hand-tools like vices, cutters, etc. Thus the Workshop came into being for the manufacture of scientific appliances for schools and college laboratories. Glassware, thermometers and other laboratory equipment which could not be made in the workshop were imported from Germany or England. The workshop developed into a full-fledged business center.”
- “Another aspect of his work, somewhat unusual for his time, **was establishing around 1914, a Sulphuric Acid Factory at Shahdara near Lahore.** This flourished for several years and become a substantial source of income. Its main significance lay in the fact that a comparatively junior collage teacher (not an industrialist by training) was able to gather sufficient information and material from advanced text-books and connected publications to initiate a major industry in the country.”

Awakening of Asia- Restructuring and physical “globalization”

THE AWAKENING OF ASIA.

BY

RUCHI RAM SAHNI,

RETIRED PROFESSOR, GOVERNMENT COLLEGE,
LAHORE.

Published by

THE PUNJAB PRINTING WORKS,
Ganpat Road, LAHORE.

FOREWORD.

In these pages an attempt has been made to present to the general reader a rapid panoramic view of the procession of events in Asiatic countries on either side of India. The period covered may be roughly taken to be a hundred years, commencing from the disappearance of the spectre of Napoleon from the European stage and ending with the outbreak of the Great War.

The chief interest of the narrative lies in the amazing social and political upheaval which was witnessed all over the old continent during the opening decade of the present century. It is my intention to follow up this small volume with another devoted exclusively to the simultaneous awakening of India.

RATTIGAN ROAD,
DECEMBER 20, 1929.

RUCHI RAM SAHNI.

CONTENTS.

PAGES.

CHAPTER I.—Birth of new imperialism. Its methods of work. Rapid extension of European domination in Asia and Africa. Awakening of Japan and China	... 1 to 31
CHAPTER II.—Persia and Russian ambitions. Western influences at work. Economic exploitation by foreigner Sayyad Jamal-ud-din and Pan-islamism. Persian Revolution and establishment of constitutional government	... 33 to 64
CHAPTER III.—Turkey in the nineteenth century. Its rapid disintegration after the Berlin Congress of 1878. The rise of the Balkan states. The Young Turks movement	... 65 to 98
CHAPTER IV.—The Young Turks in Power. Overwhelmed by foreign aggression. The War in Tripoli. The Balkan cockpit. European complications. The Balkan Wars. Their effect upon Indian Mussalmans	... 99 to 127

7th November 1932.
Bombay.

Governor of D. State

LALA LAJPAT RAI'S TRIAL

BY

Anand Narain Sewal B. A. LL. B.,

Assistant Editor, the "Tribune."

With a Foreword

BY

Prof. Ruchi Ram Sahni.

A complete record of proceedings in the recent trial of Lala Lajpat Rai, Pandit Santanam, Dr. Gopi Chand, Malik Lal Khan, and Lala Tirlok Chand along with relevant papers including Press comments, etc.

PRINTED BY
THE TRIBUNE PRESS, LAHORE,
1922.

Price Re. 1 only.

days of law and order, but little or nothing of justice and liberty. As Sir Hormuji Wadia pointed out the other day in words of great beauty and concentrated force in his speech at the Malaviya Conference at Bombay: "Law and order are the tyrant's plea in all history."

No less clear and convincing for those who may be open to conviction are the words of "The Manchester Guardian" It says:—"The principle of liberty, the struggle for which runs through all English history, does not consist in vindicating freedom of expression for the principle that we like. Its "acid test" is freedom for the advocacy of principle that we dislike. We all want to be free to express our own opinion. But if we believe in liberty, we are not less concerned that our opponents should be free to express their, to us objectionable, perhaps abhorrent, opinions. The freedom of truth is also the freedom of error. Let no one suppose that this is mere waste and loss, for it is only through the ventilation of all shades of opinions, erroneous as many of them will be, that truth is tested and finally set upon a firm and rational basis. Most errors contain some truth . . . You do not prove a man wrong in argument by knocking him on the head or putting him on to a plank bed. What you suggest rather is that you are afraid of his arguments and feel yourself incapable of meeting them with a reasoned reply."

The fact is, the bureaucrat the world over, has unlimited faith in himself and specially in the efficacy of coercion and repression. All the lessons of history to the contrary are lost upon him. Indeed, history is the one thing which he has a more genuine contempt for than any other thing. He believes in making history, not in studying it. Mr. Bumbler in Oliver Twist shows a truer appreciation of the working of human nature as revealed in the progress of mankind, when he says in his own simple, unsophisticated way "the law is a bass,"

Committee was held, do not legally constitute public meetings, the fact remains that only the sentences have been remitted under Section 401 Criminal Procedure Code, but the convictions stand. The only satisfactory solution under the circumstances would have been for the local Government to act upon the recommendation embodied in the Resolution moved in the Punjab Legislative Council by Raja Narendra Nath and refer the case to the High Court. The advantages of this course of action, from the public point of view, are obvious. In the first place, the finding of the High Court on the issue involved in the case would have had a binding force on the subordinate courts in the province. As it is, despite the Government communique, the courts are under no legal obligation to follow the interpretation placed by the executive on the wording of the particular section. In the second place, in the event of the High Court acquitting the accused, the conviction itself and not merely the sentence would have been set aside.

One need not dwell too much on such niceties of principles and procedure, partly, for the reason that they cannot, in the very nature of things, appeal to an Executive which is not responsible to the people, but, chiefly, because they are outside the province of a layman like the present writer.

It would be ungracious to conclude these brief introductory remarks without a word of appreciation of Mr. Anand Narain Sewal's labours in preparing this useful compilation. As I have already pointed out, Lala Lajpat Rai's trial has, for more reasons than one, attracted wide attention and interest, and Mr. Sewal deserves the thanks of the public for having brought together, in a readily accessible form, all the papers relating to the case.

LAHORE: }
1st February 1922 }
RUCHI RAM SAHNI.

than some of our administrators do. They would, perhaps, pull up their faces and frown at us if they were told, in the words of a famous political thinker that "all our liberties are due to men who, when their conscience has compelled them, have broken the laws of the land."

It is not difficult to imagine what incalculable harm Lala Lajpat Rai and his associates would have done to the cause of truth and human freedom if, at the bidding of the District Magistrate of Lahore, they had cancelled the meeting of the Provincial Congress Committee which had been called for the 3rd December last. By standing up for a fundamental right of the people, which was sought to be trampled under foot, they have not only vindicated their country's honour, but they have also raised public life in India to a higher level. As in religion so also in the department of justice, we do not suffer so much from bad laws as we do from the wrong and unjustifiable interpretations of laws by an ignorant and interested theocracy in the one case and an irresponsible bureaucracy in the other.

It was to guard against the exercise of excessive authority by the executive that our local Legislative Council adopted a resolution, sometime back, against the wishes of Government that all cases of non-co-operators in which there was possibility of miscarriage of justice should be sent up for revision or review to the High Court. Competent lawyers are of opinion that the High Court could send for the cases on its own initiative and review them. As we know, nothing of the kind was done in the present case. And, perhaps, it was just as well that it was so. For one thing it would show, if our councillors can understand the plain meaning of it, that resolutions or no resolutions, the Government knows best what to do under a particular set of circumstances, and what not to do. One thing, however, we have not been able to understand, viz, why was a second charge

THE ARREST AND AFTER.

I.

One cloudy afternoon—it was December 3, 1921—Lala Lajpat Rai, Pandit K. Santanam, Dr. Gopi Chand and Malik Lal Khan found themselves first under arrest and a few hours later clapped in the Lahore Central Jail, as under-trial prisoners. The arrest was not unexpected Lala Lajpat Rai's manifesto and his letter to Mahatma Gandhi to be found on page 92 are conclusive on that point. The meeting of the Punjab Provincial Congress Committee was held with full knowledge of the fact that the district of Lahore was a "proclaimed" area under the Prevention of Seditious Meetings Act. All the members of the Committee, 39 in number including these four gentlemen, attended the meeting on the 3rd fully prepared to suffer the consequences, should the District Magistrate look upon the holding of the meeting as an act in contravention of the provisions of the Prevention of Seditious Meetings Act. The District Magistrate of Lahore did regard the meeting as illegal and arrested the four gentlemen and dispersed by force the meeting of the remaining members under the chairmanship of Pandit Rambhaji Datt Chaudhri.

Lala Lajpat Rai, Pandit K. Santanam, Dr. Gopi Chand and Malik Lal Khan were thus arrested on the 3rd

for Christ and Christian ideals was never so great as at this time, as was instanced by his lecture on '*India asks who is Christ*'; on the other he opened his mind, now more than ever before, to many of the old ideals of orthodox Hinduism, thereby showing the catholicity and all-comprehensive universalism of the faith he now propagated. He was slowly preparing for some of the remarkable features of his New Dispensation, which he began to preach from the next year.

Then came the tenth Bhadratsav or the festival celebrating the anniversary of the consecration of the Bharatbarshiya Brahma Mandir on the 22nd of August, 1869. On this occasion Mr. Sen chose from amongst his missionaries four persons and ordained them as Adhyapak or Professors of four old religions of the world, viz., Rev. Bhai Gour Govinda Ray, the Professor of Hinduism, Rev. Bhai P. C. Mozoomdar, the Professor of Christianity, Sadhu Aghore Nath Gupta, the Professor of Buddhism, and Rev. Bhai Girish Chandra Sen, the Professor of Mahomedanism. It should be noted here that all these four gentlemen have done full justice to their ordination, as is evidenced by Rev. Bhai Gour Govinda Ray's work on the Gita and other researches in Hindu Theology, by Mr. Mozoomdar's remarkable book called *The Oriental Christ*; by Sadhu

Aghore Nath's life of Buddha, and also by Bhai Girish Chandra Sen's *Life of Mahomet*, his *Tapasmala* or the lives of Mahomedan saints and his translations of the Koran and the Hadis. Let me observe here that Rev. Bhai Girish Chandra Sen's contributions to the religious literature of Bengal by the above-mentioned compilations from Mahomedanism are invaluable, and will certainly immortalise his name in the history of Bengali literature. Speaking of the Brahma Samaj specially, he has certainly laid its members under a deep debt of gratitude; for many have derived spiritual sustenance from his books.

On the 30th Bhadra following, after special divine service, one more Professor was added to the foregoing list; Rev. Bhai Trailokya Nath Sannyal, the well-known singer of Mr. Sen's party, subsequently known as the Singing Apostle of the New Dispensation, was ordained that day as Adhyapak or Professor of music. All these were old hands, and their accession did not bring in new strength, but Mr. Sen, perhaps, wanted to give a fresh start to their calling and launch them into a new career.

After having brought his close adherents under some sort of a new regulation, Mr. Sen concluded these festivities by a visit along with his followers to a garden house of a friend of his in the northern

TO THE BRITISH CABINET MISSION

by
PROF. RUCHI RAM SAHNI

PRICE RS. 2/4

DEWAN'S PUBLICATIONS
LAKHORE (INDIA)

19

should approach the crucial problem in a spirit of justice and even of generosity. Let no one forget that upon a satisfactory solution of the Indian problem tremendous issues depend—the happiness and contentment of 400 millions of the people of India, the reputation, progress and prosperity of Britain, and the peace and tranquillity of the world.

India is impatiently waiting to make its own contribution to the culture and civilisation of the world.

Lahore
14th June, 1946 RUCHI RAM SAHNI

CONTENTS

I

Our Greetings to the British Cabinet Mission	13
India Anxious To Rebuild Herself on Her Own Pattern Both for Her Own Sake and To Make Her Humble Contribution to the Peace and Reconciliation of a Distracted World	14
Our Past History Further Supports Our Present-Day Aspirations and Ambitions	16
Our Credentials	17

II

The British Empire in India: Its Greatest Defeat	20
Britain's Paramount Need To Win an Empire in the East	23
India's Great Industries	26

III

Well-Deserved Appreciation	27
Mr. Jinnah's Pakistan an Ill-Defined,	

STRUGGLE FOR REFORM IN SIKH SHRINES

by
RUCHI RAM SAHNI



Edited by
DR. GANDA SINGH

Published by
SIKH ITHAS RESEARCH BOARD
(S. G. P. C. AMRITSAR.)

vi

obeyed it. He went through sufferings and made sacrifices that could only have been demanded of seasoned soldiers. In their case it was not a blind obedience like that of the Balaclava horsemen. Not desperate submission to an order because it must be obeyed, but the indomitable, unconquerable faith that they were doing the right thing in the service of their God and the community. The stories of the Crusaders pale into insignificant before the Guru-ka-Bagh or Jaito episodes, for instance, because, if for no other reason, the Akalis practised non-violence such as Christ himself preached in the Sermon of the mount.

To put it briefly, to be an Akali was, in the words of Shelley,
To suffer woes which Hope thinks infinite ;
To forgive wrongs darker than death or night ;
To defy power which seems omnipotent ;
To love and bear ; to hope till Hope creates
From its own wreck the thing it contemplates ;
Neither to change, nor falter, nor repent.

R.R. Sahni.

Birbal Sahni

- First son of RRS to take to science
- Birbal was greatly influenced by his father, and nature trekked extensively in the Himalaya.
- He himself undertook arduous and numerous excursions to the Himalayas during which Hooker' *Flora Indica* was always by his side
- “1907 and 1911, *his brother Mulk Raj accompanied him on most of these Himalayan excursions and recall the thrill we experienced when a plant new to the collection or an orchid or a rare species of epiphyte was discovered.*”
- On return from Europe, Birbal made other long traverses, including one from Pathankot to Leh in 1920 and back via Zojila-Baltal-Amarnath-Phalgam-Jammu.
- Discovery of the coin moulds at Rohtak in March 1936
- Fond of sports (tennis) and photography – probably helped his father at Manchester (where he worked in Rutherford's Lab where Neils Bohr was also present) in preparation of slides and photography work

Extracted from Bhabha Book 'A Masterful Spirit'

Birbal Sahni (1891-1949), FRS, paleobotanist, founded the Institute of Paleobotany at Lucknow. Bhabha and Sahni's relationship remained a close one. He was one of the few scientists to whom Bhabha wrote openly about his sense of loss after his father's death in 1943.

07.01.43 BHABHA TO SAHNI MEHRANGIR, 12, LITTLE GIBBS ROAD, MALABAR HILLS, BOMBAY.

My dear Sahni,

I want to thank you for your wire of sympathy on the death of my father. I am sorry to have been so late in writing to you but I have been extremely busy. My father's untimely death upset my work for several months, and I had to make up for lost time by working upto 1 and 2 every night up till the 29th December. I have now come to Bombay for a four weeks holiday.

Although it is today just six months since my father died, the passage of time has in no way lessened the acute sense of loss we feel at his death. Our family of four has always been so close that whether in work or in pleasure we constantly miss the presence of one who had hitherto shared everything with us. He was full of zest for life to the very end and although he was semi invalid for the last year and a quarter of his life due to an attack of coronary thrombosis, he was fortunately spared any pain or suffering. He was both an exceptional husband and an exceptional father, and I owe whatever ability I may have to the enormous pains he took to develop any talent I might have possessed as a child.

Thank you for your letter of the 4th October which I have also not replied to. It is very kind of you to offer to publish up to 250 pages of my lectures. I wish I could avail myself of the offer. Some five years ago before I came out from England, I had promised Professor R.H. Fowler to invite a book on cosmic radiation for the series of international monographs on physics published by the Oxford University Press. I have kept putting off this book as I was engaged in some important research connected with the subject of the book till 1941. I have spent some nine months of this year either writing the book or collecting material for it, and about half of the book was sent off to Cambridge on the 29th December. This is the reason why I have been working so hard. The other half will be written this year. As this is a book I had promised some five years ago when I was a lecturer in Cambridge, you will understand that I would not give the material for publication elsewhere, and that it also precludes my writing anything else except on new researches, just now. It is only with the greatest unwillingness I wrote 15 pages for my presidential address for the Physics section of the Science Congress. I was asked to deliver the Sukraj Rai lectures by Patna University and 3 lectures by Bombay and in both cases I replied stating my inability to write anything for them. Bombay University have nevertheless asked me to deliver the lectures on the understanding that nothing need be written at all. I hope you will therefore understand the difficulty of my writing up anything for publication by Lucknow University. I should really have been happy to oblige you as a friend but there is nothing I can write besides what has already been published in my papers from time to time or appear in the book mentioned above. I am sorry the Science Congress was not held at Lucknow. I had spent some precious time organizing two discussions which I had hoped would have been useful for workers in this 'line'. It is a pity the Congress was not postponed for some months instead of being held in such difficult circumstances.

With kind regards and best wishes for a Happy New Year to you and Mrs Sahni.

Yours sincerely,

H.J. Bhabha.

Five Generations

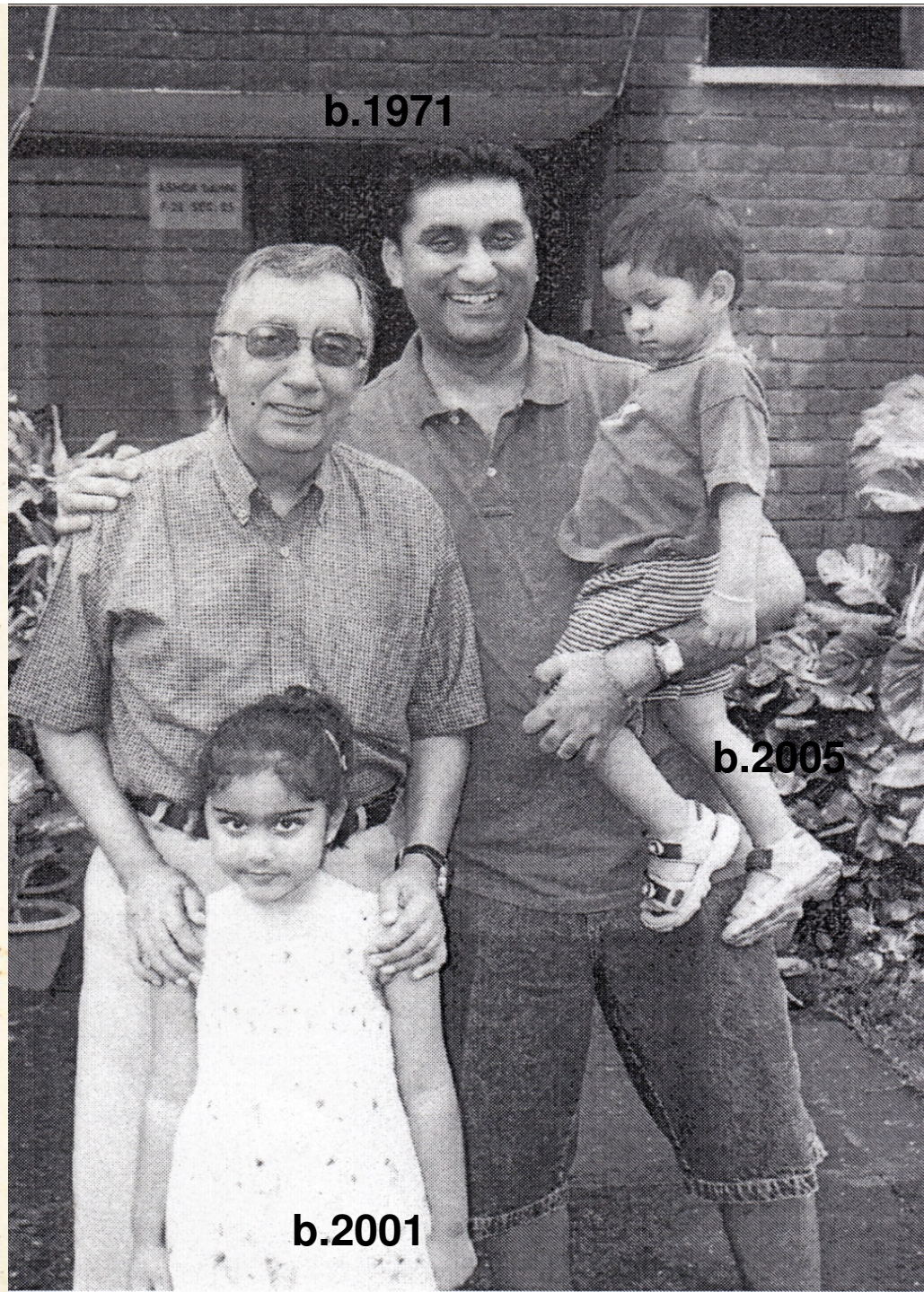
b.1899



b. 1863

b.1941

b.1971



b.2005

b.2001

Dr. Bhatnagar with Dr. Birbal Sahni



Dr. Bhatnagar and Dr. Bhabha



Two Doyens

Sir Shanti Swarup Bhatnagar

- 21 February, **1894, Bhera**, Shahpur in Distt. (Pakistan) - Jan 1 1955, Baroda
- Parents : Smt. Parbati and Shri Parmeshwari Sahai
- Childhood at Sikandarabad, Distt. Bulandshahar, UP, after losing his father when he was **just 8 months old**
- 1908 : Moves to Lahore, under the care of **Shri Raghunath Sahai**, the famous headmaster of the **Dyal Singh High School** at Lahore and a close friend of his father

Dr Homi J. Bhabha

(October 30, **1909, Mumbai** – January 24, 1966, Mount Alps
* Parents : Smt. Meharbai and Mr J. H . Bhabha, Barristor, Legal Advisor to Tatas , Grandson of Dr Col. Hormusji J. Bhabha, M.A. , D.Litt., Inspector General of Education at Mysore

Childhood and Early Education: Mumbai.

Sir Shanti Swarup Bhatnagar

- 1911 Matriculation, Dyal Singh High School at Lahore
- 1913 Intermediate, Dyal Singh Intermediate College
- May, 1915: Married to Lajwanti, daughter of Shri Raghunath Sahai
- 1916 : Completes B.Sc. with Honours in Physics from Forman Christian College
- Was **failed in Chemistry** due to an upto date answer on wave attributes of X-rays, not available in then text books of Physics and Chemistry
- Provides import substitution for German Gelatin duplicating pads used for printing , in particular, the Question Papers of P.U. Lahore. **Rewarded Rs.150 for this innovation**

Dr Homi J. Bhabha

Schooling : Cathedral School and Royal Institute of Science, Mumbai
1927-1939 : Cambridge University, UK
First –Degree in **Mechanical Engineering**, followed by that in Mathematics and Physics. Ph.D. in Theoretical Physics.

Travelled to Europe on a Fellowship like SSB, met W. Pauli at Switzerland and Neils Bohr in Copenhagen.

Sir Shanti Swarup Bhatnagar

- 1919 : Completes M.Sc., takes three years as he has to earn while learning. Works for FC College, while studying at Government College, Lahore.
- 1919-1921 : D.Sc. Degree at University of London. Fellowship arranged by **Prof. Ruchi Ram Sahni from Dayal Singh Trust.**
- Meets Prof. Walther Hermann Nernst, Nobel Prize Chemistry (1920)
- 1921-1924 : **Research Professor at Banaras Hindu University**, on invitation from Pt. **M M Malviya** - Establishes Chemistry Laboratory

Dr Homi J. Bhabha

1939-1945: Stay at Dept. of Physics, Indian Institute of Science, Bangalore

19 August 1943 : Proposes the initiation of Tata Institute of Fundamental Research

1 June 1945 : TIFR Starts at IISc., Bangalore

19 December 1945 : TIFR inaugurated at Mumbai

Sir Shanti Swarup Bhatnagar

- 1924-1939 : Professor of Physical Chemistry and Founder Director of University Chemical Laboratory, Lahore. **Initiator of Chemistry Honours School** at P.U. Lahore.
- December 1939: Sir Ramaswami Mudaliar, Commerce Member in Viceroy's Committee identifies him to conceive plans for Scientific and Industrial Research (SIR) to aid war effort of British in Europe.
- **1940: Director, Scientific and Industrial Research, Calcutta.**
Sets up Research Laboratory at Alipore in Calcutta

Dr Homi J. Bhabha

April, 1946: First meeting of CSIR Committee for Atomic Research conducted at TIFR, Mumbai in which Shanti Swarup Bhatnagar participated.

26 August, 1947: Board for Atomic Research created in CSIR

April 1948: Atomic Energy Commission created with Dr Homi Bhabha, Dr Shanti Swarup Bhatnagar and Dr K.S. Krishnan as members.

Sir Shanti Swarup Bhatnagar

- Nov. 14, 1941: Industrial Research Fund Created with an annual grant of Rs.10 lakhs
- 12 March 1942: CSIR registered as a Society
- **September 26, 1942** : Research Fund transferred to CSIR, Hence the Foundation Day of CSIR.
(**SS Bhatnagar Prizes announced every year on this day**)
- After August 1945: Creates Committee for Atomic Research
- Starts setting up chain of CSIR Laboratories
- **CGCRI, Calcutta, 24 December 1945**

- * **CFRI , Dhanbad , 17 Nov., 1946**
- NML , Jamshedpur , 21, Nov., 1946**
- **NPL New Delhi , 4 January, 1947**
- NCL Pune, April 6, 1947**

Research papers published in 1926 by Dr. S.S. Bhatnagar from Punjab University Chemical Laboratories, Lahore

23. Effect of Polarised Light on Bacterial growth (*Nature*, 117, 302, 1926)

24. Effect of Polarised Radiations on Animal Metabolism (*Nature*, 118, II, 1926)

25. Conductivity and Surface Tension of Univalent Salts of Higher Fatty Acids in the Molten State (*Kolloid Zeit.*, 38, 218, 1926).

26. Concentric Coloured Rings or the Beet-root and the Liesegang Phenomenon (*Kolloid Zeit.*, 39, 264, 1926).

27. Rates of Evaporation of Water absorbed on Metals and their Oxides (*Jour. Chem. Phys.* 25, 545, 1926).

28. Relations between the chemical Constitution of Organic Liquids and the Translucence of Paper dipped in them (*Zeit. Phys. Chem.*, 122, 88, 1926).

Acharya Praful Chandra Ray

(MA in Chemistry teacher of Ruchi Ram Sahni at Calcutta)

- **“On turning over the pages of Nature my eyes changed across an advertisement of Macmillan’s in which I find your book* at last advertised. That the book is of a high standard is indicated by the most excellent review in Current Science by Professor Stoner, who is competent to judge.**

**Physical Principles and Applications of Magneto-Chemistry,
by S S Bhatnagar and R N Mathur,*

Macmillan and Co. Ltd., 1935

Dr. P.C. Ray (contd...)

- As far as I know, **Meghnad's is the only text book in Physical Science** that has been adopted in foreign universities and it gladdens my heart that another work in Physical Science is likely to occupy a similar place.
- **My days are numbered and my great consolation is that you in chemistry are trying to raise the reputation of Indian workers abroad”.**

Prof. C.V. Raman

- ...it is always a pleasure to me to handle new scientific books by reputed authors. In the present instance, the pleasure has been greatly enhanced by the very attractive printing and get up of the book and by the fact that the **authors are my own countrymen.**
- I very much specially **admire your energy** and perseverance in having produced such a book in spite of your other important scientific activities. **Your name now stands as one of the very few Indians who have written scientific books claiming the respect and attention of senior workers in every country”.**

Prof. C V Raman & Dr. S S Bhatnagar



Convocation Address of Sir Herbert Emerson, Governor of the Punjab to the Punjab University,

1935

- **“.....first class work being done by that very distinguished scientist Dr. Bhatnagar in the University Laboratories on the technology of oils. In am told by men who know the practical side of the industry that the results already attained promise to be of very great commercial value. While the possibilities are immense, we know that a well-known firm has shown its faith in Dr. Bhatnagar and his assistants by a handsome financial contribution towards the cost of the work that is being done”.**

Convocation Address of Sir Tej Bahadur Sapru at the Pb. University, 1936

“When , therefore, I read the other day in the newspapers that **Messers Steel Brothers had in recognition of the great work done by Dr. Bhatnagar, made very generous gift of money** to him and he had with a singular sense of patriotism and self denial transmitted a considerable part of that gift to the Chemistry Department of your university so as to create an Industrial research Department in which some research scholars could develop new processes for the industrial utilization of Indian raw materials.

Convocation Address of Sir Sikander Hayat Khan Prime Minister , Punjab to the Pb. University, 1937

- **“It is gratifying that the Chemistry laboratory under the able and enthusiastic guidance of Dr. Bhatnagar continues to do valuable research work, which apart from its educational value is proving of great benefit to the industrial concerns in Punjab and elsewhere. Some of the results of Dr. Bhatnagar’s researches have deservedly earned for him and his associates an international place in the field of Applied Chemistry.**

Prof. M.N. Saha, D.Sc., F.R.S.

- **“Congratulations on your noble gift to the Punjab University, you have **hereby raised the status of the University teachers in the estimation of the public, not to speak of the benefit conferred on your Alma Mater.****
- **India does not lack in men earning millions but if a few of these millionaires were guided b the fine examples set up by a comparatively poor teacher like yourself, ...**

His Excellency Sir Henry Craik, Governor of the Punjab while inaugurating 26th session of the All Indian Science Congress, Lahore (2nd Jan. 1939)

- **“There has been also been much of greater output of written work notably in Chemistry Department under the distinguished direction of Professor Bhatnagar which had attracted students from all parts of India, and its achievements have won recognition in Europe also.**

**His Excellency Sir Henry Craik, Governor of the Punjab
at the Annual Lunch of the Northern India Chamber of
Commerce, Lahore, 13th April, 1940**

• **“There is every reason to suppose that the war will give an immense fillip to Indian industry. There will be double stimulus. The great demand for industrial products created by the War will be the direct incentive to the existing industries while the difficulty of obtaining many of the articles, we are importing before will stimulate, the search for substitutes or ways and means of producing them here.**

Sir Henry Craikcontd.

- **And in order to promote and coordinate and to facilitate the exploration of more fields of development. The Central Government have just set up a Board of Scientific and Industrial Research** on which a number of Scientists and Industrialists of this country have agreed to serve. I believe that the establishment of this new organization will prove to be an important landmark in the history of India's industrial development.
- **And I am sure everybody here , would agree with me in congratulating the Central Government on having secured the services of Dr. Bhatnagar as member of the Board and as Director of Scientific and Industrial Research. As Chancellor of our provincial University of which he is so distinguished an ornament, I deeply regret his transfer to another sphere**

Dr Bhabha's letter to Sir Sorab Saklatvala (1944)

I also hope that in time we shall receive **liberal support from the Board of Scientific and Industrial Research** whose avowed policy includes support of pure research.

It would be in the interest of efficiency if the Board of Scientific and Industrial Research decided to subsidise us to carry on pure research which is its intention to foster by paying us, say, **ten percent of the annual expenditure it contemplates on the projected National Physical Laboratory.**

Dr Bhabha's communication to Pandit Nehru (1953)

The **Atomic Energy Commission**, on the initiative of Dr **S.S. Bhatnagar**, at its 27th meeting on the 22nd and 23rd **April 1953** recorded the following:

“The Commission noted that it had recognized the **Tata Institute of Fundamental Research** as the only laboratory of the Commission for fundamental research in atomic science. **In view of this decision the Commission would not set up another laboratory of its own for fundamental research in atomic physics.**”

Dr Bhabha's address on Foundation Stone Laying Ceremony at TIFR

(January 1, 1954)

I would also like to record here my appreciation of the tireless efforts made by my colleague, **Dr Bhatnagar, in securing this site** and it is, thanks to this, and all the help he has given, that we are today in a position to lay the foundation stone.

We have associated with them as executing architects, the well-known firm of **Master, Sathe & Bhuta who built the National Chemical and the National Physical Laboratories** and with them we have also associated **Mr. Kanvinde of the Council of Scientific and Industrial Research for working out the details.**

Bulletin Board of TIFR ARCHIVES

Early days of TIFR

1945-1950

In **May 1945**, the Trustees of the **Sir Dorabji Tata Trust** decided to sponsor an Institute for Fundamental Research, in co-operation with the Government of Bombay. It was decided to incorporate the Cosmic Ray Unit of the Indian Institute of Science, Bangalore in this Institute. It was also decided to name the new Institute

“The Tata Institute of Fundamental Research”

The Provisional Council consisting of

Sir S.D. Saklatvala
(Chairman)

Representative of Sir Dorab Tata Trust

Mr S.N. Moos

Representative of Government of Bombay

Dr John Mathai

Representative of Sir Dorab Tata Trust

Dr H.J. Bhabha

Director of the Institute

held its first meeting **on May 18, 1945.**

First Meeting of TIFR Council (May 1945)

In this meeting, a tentative proposal for the budget of Rs 80,000 was passed for the year 1945-46.

The income available was

- **Rs 45,000 from the Sir Dorab Tata Trust**
- **Rs 25,000 from the Government of Bombay**
- **Rs 10,000 from the Council of Scientific and Industrial Research**

TIFR ANNUAL REPORT 1946-47

The Council of Scientific and Industrial Research sanctioned an annual block grant of Rs 75,000 to the Institute during the year 1946-47 and requested for representation on the Council of the Institute.

This grant was to enable the Institute to create a chair of Astrophysics and to invite a Visiting Professor.

Sir S.S. Bhatnagar, Director CSIR, was appointed as a representative of the Central Government on the Council of the Institute.

TIFR ANNUAL REPORT : 1947-48

Dr P.S Gill joined the Institute on June 26, 1947 as a Professor of Experimental Physics. Mr S. Gupta joined the Institute as a Reader in Theoretical Physics on August 13, 1947. Dr F.W. Levi joined the Institute as Professor of Mathematics from February 6, 1948.

Sir S.S. Bhatnagar, Sir K.S. Krishnan, Dr D.M. Bose and Mr D.N. Wadia, members of the Board of Research on Atomic Energy also **visited TIFR on April 9, 1948.**

Atomic Research Committee, appointed by the CSIR recommended in 1948 that TIFR should be the centre of all large-scale research in nuclear physics in India.

The Committee recommended that a high energy accelerator capable of producing particles of energy above 200 MeV and sufficient to create mesons should be set up in TIFR.

A committee was set up to appoint a team of ten scientists and train them in techniques of Nuclear Physics. CSIR also sanctioned a sum of Rs. 32,400 for the training of this team of scientists.

The following eight appointments were made.

Mr R.P. Thatte, Mr A.B. Sahiar, Mr P.C. Vaidya, Mr G.H. Vaze, Mr G.S. Gokhale, Mr R.R. Daniel, Dr Pritam Sen and Mr R.V.S. Sitaram.

Dr Bhabha personally was in charge of the team.

TIFR ANNUAL REPORT : 1948-49

In September 1949, the Institute moved from its old premises at Pedder Road to the converted Yacht Club buildings.

The Department of Scientific Research sanctioned an additional grant of Rs 30,000 for the purpose of constructing suitable accommodation in the new premises.

Dr. S.S. Bhatnagar (1 January, 1954) (Foundation stone laying of TIFR)

About a year ago, Dr. Bhabha and I were working on the plan for the development of the fundamental research laboratory for nuclear physics. **The problem which perplexed us was whether we could afford to have a separate institute for nuclear studies or expand the Tata Fundamental Research Institute to include all this and develop it into a really very good laboratory for such investigations.**

The lack of sufficient funds made me propose that the Tata Fundamental Research Institute should be expanded to include all scientific research of a fundamental character in these fields and that it should be ranked and perhaps named as a national institute.

Dr. S.S. Bhatnagar (Jan. 1, 1954) contd...

A distinguished young politician walked into my room and asked me about the nature of discussion which we (*he and Homi Bhabha*) were having. I explained to him briefly our ideas on the subject.

Dr. Bhabha had to go away for, he had another appointment and this young man found time to ask me in all curiousness as to **why as a practical scientist I wanted to associate myself with the transfer of such important practical activities to the care of Dr. Bhabha whose fame rested mainly on subjects which were highly mathematical and of little significance to the material development of our country. He said a senior scientist asked him to dissuade me from being a party to an ambitious project which could not be brought into being in my life time.**

Dr. S.S. Bhatnagar contd...

With all the patience and gentleness I am capable of having, I told my friend that he did not know Dr. Bhabha intimately enough and that although his fame in mathematical physics brought a great deal of credit to India, his talents in other fields such as arts and paintings were no less creditable and that above all he had had his basic training in engineering subjects and he holds a degree in engineering and that nobody in India was in my opinion better fitted to take up this task which was assuming world importance and could not be neglected by us.

Dr. S.S. Bhatnagar ... Jan. 1, 1954

I wish to offer my colleague, Dr. Bhabha the felicitations of the Ministry of Natural Resources and Scientific Research. I hope my desire to see the grandeur and beauty of this new Institute with my own eyes will be fulfilled. **I have decided to live to see it fully constructed and equipped.**



1954

Dr. S S Bhatnagar at laying of Foundation Stone of TIFR, Jan. 1, 1954



Pt Nehru with Architectural Model of TIFR



Pandit Jawahar Lal Nehru

“I have always associated with many prominent figures closely connected with the Science Congress and among them the chief was Dr. S.S. Bhatnagar. We have eminent scientists in this country and people eminent in other ways. **Dr. Bhatnagar was a special combination of many things added to which was a tremendous energy, with an enthusiasm to achieve things.**”

Pandit Jawahar Lal Nehru contd..

There are many things which he discussed with me and which he hoped to put through soon. **We want many more scientists like him if we are to go ahead and solve our problems”.**

Pandit Nehru, Maulana Azad & Dr. S S Bhatnagar



Shri Maulana Abul Kalam Azad

I met Dr. Bhatnagar for the first time in 1942. I was returning to Calcutta after release from the central jail at Naini. As was the convention in those days, there was a crowd of some thousands at Howrah to receive me. When I came out of the crowd and got into the car, one man detached himself from the crowd and came up to me. **He touched my feet and said, “ I am Shanti Swarup Bhatnagar”.**

Shri Maulana Azad contd...

The Govt. of India had, at that time, appointed Dr, Bhatnagar as Director, Council of Scientific and Industrial Research. As such, **he was a Government servant while I was Congress President and a rebel against the Government.**

Shri Maulana Azad contd...

- He did not have a moment's hesitation to express his regard, in this manner, for a rebel against the Government in the presence of thousands of spectators and the full complement of the CID staff.
- During the last 7 years, I have come into the contact with many officers of the government of India but I can say, without reservation, that **I have not met a man who was more active and energetic. In 1948, he was for a few months, Secretary to the Ministry of Education;**

Shri Maulana Azad contd...

I had still greater opportunity of seeing for myself his work since 1952 when I assumed the charge of the Ministry of Natural Resources and Scientific Research and Dr. Bhatnagar was, for over a year, Secretary of both the ministries.

Shri Maulana Azad contd...

He was at that time carrying the burden of four men. He was secretary to two ministries, Director of the Council of Scientific Research and Industrial research and also Secretary of the Atomic Energy Commission. He however carried out single handed, the duties of four officers with great devotion and ease.

Shri Maulana Azad contd...

For almost two years, I cannot think of a single occasion when he found any difficulty in carrying out his multifarious duties.

He came to office at 8.00 a.m. and left at 7.00 p.m. I often felt that the effect of such hard work might tell upon his health.

Shri Maulana Azad contd...

In spite of my repeated requests, he would not, however, refrain from his hard work. Last year, we sent him out in connection with the work of scientific research. **I extended his deputation by 2 weeks and asked him to take complete rest for a fortnight in Switzerland. I have no doubt that this passion for work reduced the duration of his life.**

**Dr. H.J. Bhabha, F.R.S.
(1955)**

I had worked with him as a colleague for nearly 10 years and I can, therefore say personally, his premature death was due to over work. Science is today an integral part of the modern civilization and it is Dr. Bhatnagar's outstanding achievement that in the short period of a few years he conceived and built in India a chain of magnificent National Laboratories.

Dr. Homi Bhabha's address on 'Science and Problems of Development', **Jan. 7, 1966, Mumbai**

I would like at this point to pay a tribute to the memory of my friend and colleague, the **late Dr S.S. Bhatnagar, thanks to whose enthusiasm, energy and dynamic personality **a large number of national laboratories were established within a period of some seven years.****

**Khan Bahadur Mian
Muhammad Afzal Hussain**

**First whole time VC of PU,
(1938-44)**



(Since 1945)

VICE CHANCELLORS

S.No.	NAME	FROM	TO
1.	S. B. S. TEJA SINGH	09.02.1945	31.03.1949
2.	Sh. G. C. CHATTERJI	01.04.1949	31.07.1949
3.	Sh. DIWAN ANAND KUMAR	01.08.1949	30.06.1957
4.	Sh. A. C. JOSHI	01.07.1957	30.06.1965
5.	Sh. SURAJ BHAN	01.07.1965	30.06.1974
6.	Prof. R. C. PAUL	01.07.1974	31.12.1984
7.	Prof. R. P. BAMBAH	01.01.1985	31.03.1991
8.	Prof. T. N. KAPOOR	22.07.1991	22.07.1997
9.	Prof. M. M. PURI	23.07.1997	22.07.2000
10.	Prof. K. N. PATHAK	22.07.2000	22.07.2006
11.	Prof. R. C. SOBTI	22.07.2006	22.07.2012
12.	Prof. ARUN K. GROVER	23.07.2012	

**L
A
H
O
R
E**

Proposed newer Activities

- Introduction of Hons. School System across all Disciplines
- Introduce Graduate Schools notion across 11 Faculties through integration of MSc-Phd, Choice Based Credit System & Lateral Entry/Movement modes
- Teachers of Affiliated Colleges motivated to undertake Research at PU Campus through vigorous Sabbatical Leave programme
- Creation of Chandigarh Region Knowledge & Innovation Cluster (CRIKC)



**Re-initiating PU Annual Foundation Day Lectures
October 20, 2012**




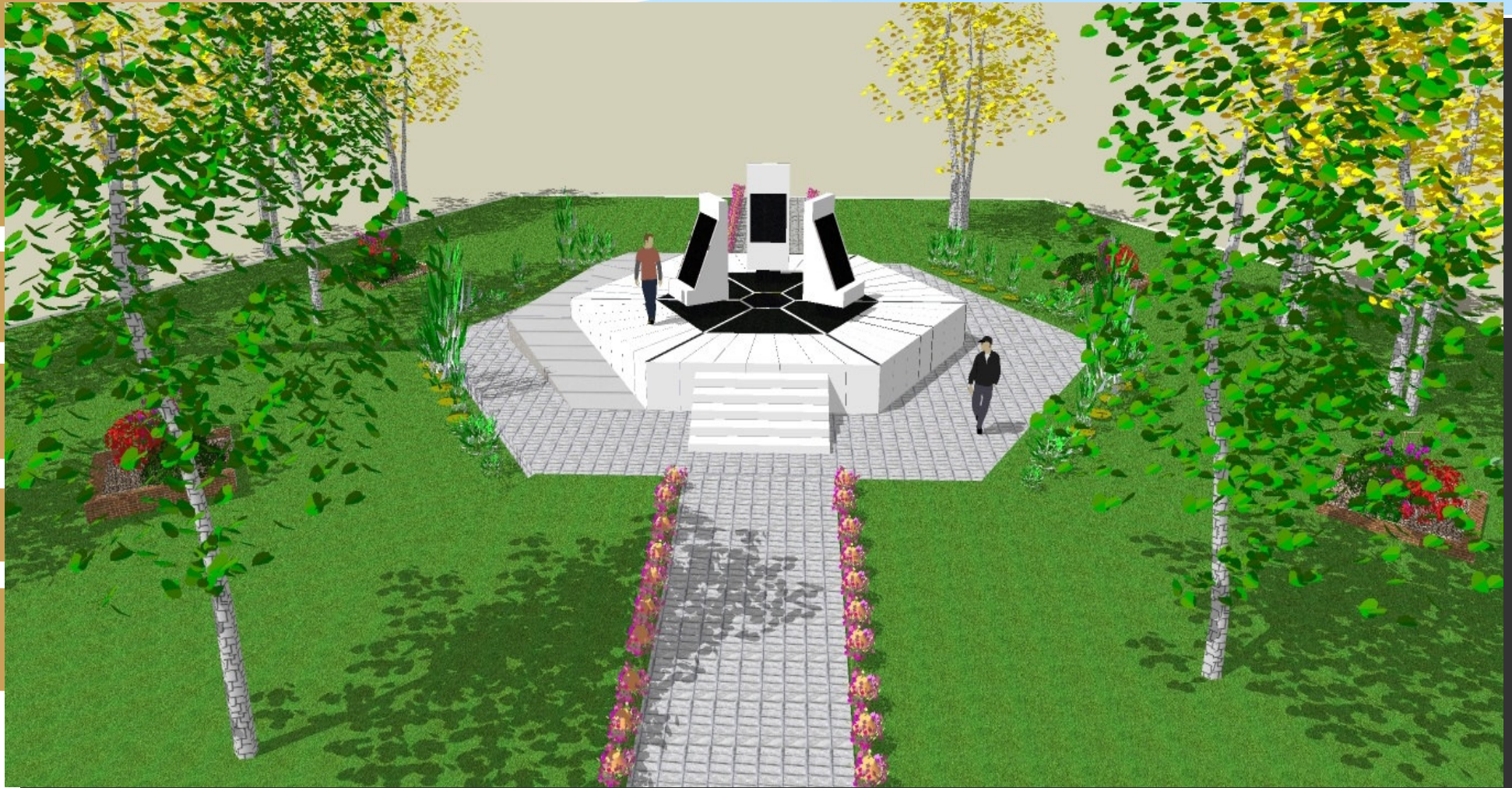
**PANJAB UNIVERSITY
SET UP 65 YEARS BEFORE
INDIA'S INDEPENDENCE
THRIVED AS A LEADING CENTRE OF LEARNING
IN THE ENTIRE SUBCONTINENT**

**THE TRAUMA OF PARTITION IN 1947
PUT ITS RESILIENCE TO THE SEVEREST TEST**

**65 YEARS LATER
THE UNIVERSITY LOOKS BACK
AT ITS RECORD OF GLORIOUS RESURGENCE WITH PRIDE**

**TO COMMEMORATE THE OCCASION
PROFESSOR ROMILA THAPAR
EMINENT HISTORIAN AND AN ALUMNA OF THE UNIVERSITY
UNVEILED THIS PLAQUE ON
20TH OCTOBER 2012**





PROPOSED PANJAB UNIVERSITY MONUMENT

**APPROACHING PATH, WALKWAYS AROUND
AND LUSH GREEN BEAUTIFUL GARDEN.**

Remembering the Legends at PU Campus



- S R Kashyap Hall
- S S Bhatnagar Hall
- Mehr Chand Mahajan Hall
- G C Chatterji Hall
- P N Mehra Botanical Garden
- Dewan Anand Kumar Admn. Block
- G P Sharma Herbal Park
- R C Paul Rose Garden
- M R Sahni Geology Block
- H R Gupta Mathematics Block
- Balwant Gargi Theatre
- **SS Bhatnagar Univ. Inst. of Chemical Engg & Technology**



**150th Birthday
of R R Sahni
(1863-1948)**

The background features a series of wavy, horizontal bands in various shades of brown and tan, creating a layered, landscape-like effect. A thin, light blue band is visible near the top. The overall composition is clean and modern.

Thank you all !

