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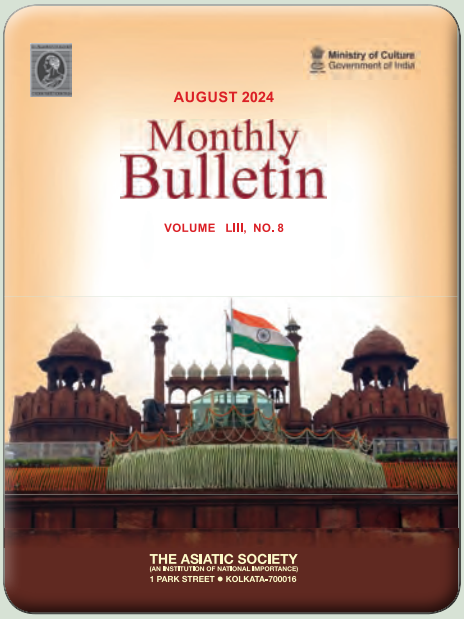

Cover Description : Indian National Flag flying high on Red Fort

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From the Desk of the General Secretary

Dear Members and Well-wishers,

To begin with I am to mention about a few events which had taken place earlier but were not reported in the previous Desk. For example, we had observed the International Yoga Day on 21st June, 2024 by organising a demonstration cum practice of a few Yogasana by staff members including the General Secretary of the Society.

A preliminary discussion was organised at the Society's Ballygunge premises (residential building of the late Professor Shyamadas Chatterjee, an eminent Physicist, which was gifted to The Asiatic Society, Kolkata by S. D. Chatterjee Research Foundation through a Gift Deed recently) on 29th June, 2024 with the presence of some members and other academicians to consider some future academic programmes and activities which might be organised in this building. This building was already proposed to be a Centre of Excellence for the Study of History of Science. Professor Swapan Kumar Pramanick, President of The Asiatic Society, presided over the meeting. Professor Asok Nath Basu, former Vice-Chancellor of Jadavpur University was present as a Guest of Honour. I delivered a lecture in Asutosh Auditorium on the occasion of 160th Birth Anniversary of Sir Asutosh Mookerjee who was also the President of the Asiatic Society twice during 1907-08 and 1921-22.

A Review Meeting of all the organisations in Kolkata under the Ministry of Culture was held on 5th July, 2024 at the Science City Auditorium, Kolkata under the Chairmanship of the Hon'ble Minister of Culture, Shri Gajendra Singh Shekhawat. A PowerPoint presentation was made in the meeting on the history, various activities, publications including the pending issues etc. of The Asiatic Society. The Hon'ble Secretary, Ministry of Culture, Shri Govind Mohan, IAS and the Hon'ble Joint Secretary, Ministry of Culture, Smt. Mugdha Sinha, IAS were also present.

Three recent publications of the Society were ready for release. The English Translation of *Caṇḍīmaṅgal* by Professor France Bhattacharya (an eminent academician based in Paris) was released on 1st July 2024 in presence of Professor Chinmoy Guha (former Vice-Chancellor of Rabindra Bharati University), Professor Pallab Sengupta (former President of The Asiatic Society) and Dr. Ramkumar Mukhopadhyay

James Prinsep (20.08.1799–22.04.1840) was General Secretary of the Asiatic Society for 1833, 1834 and 1838. He deciphered the Brahmi script of Asokan edicts. Forthcoming Issue of the *Journal of The Asiatic Society* will be published to celebrate his 225th Birth Anniversary.

(former Regional Secretary, Sahitya Akademi). Other publications – a seminar volume in Bengali on Dr. Rajendralala Mitra on the occasion of his Bicentenary (edited by Professor Tapati Mukherjee and Professor Syamal Chakrabarti) and *Rahul Sankrityayan : A Myriad-minded Scholar* (edited by Chandramalli Sengupta) will be released on 5th August, 2024 at 4 p.m. at Vidyasagar Hall of the Society.

Friends, the month of August brings to us some pleasant as well as sordid memories. The dropping of Atom Bomb on 6th and 9th of August at Hiroshima and Nagasaki respectively in 1945 is still considered as a dreadful onslaught on the humanity at large. One may remember that the International Conference for peaceful utilisation of atomic power was held in Geneva on 8th of August, 1955 which was attended by 92 countries and nearly 1200 scientists. The author of *War and Peace,* Leo Tolstoy was born on 28th August, 1828 and died in the year 1910. A number of men of letters of the world including some in India also were born in the month of August. To name only a few, Acharya P.C. Ray (02.08.1861), P.B. Shelley (04.08.1792), Guy De Maupassant (05.08.1850), Sri Aurobindo (15.08.1872), Linguist Harinath De (12.08.1877), William Carey (17.08.1761), James Prinsep (20.08.1799), Mother Teresa (26.08.1910), Johann Wolfgang von Goethe (28.08.1749).

We will observe 77th year of India's Independence in a befitting manner on 15th August, 2024.

Please keep well and safe.

(S. B. Chakrabarti)
General Secretary

Shri Gajendra Singh Shekhawat, Hon'ble Minister of Culture, Shri Govind Mohan, IAS, Hon'ble Secretary, Ministry of Culture and Smt. Mugdha Sinha, IAS, Hon'ble Joint Secretary, Ministry of Culture along with Heads of Offices of all the organisations in Kolkata under the Ministry of Culture, Government of India in a Review Meeting held on 5th July 2024 at the Science City Auditorium.

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AN ORDINARY MONTHLY GENERAL MEETING OF THE ASIATIC SOCIETY WILL BE HELD ON MONDAY, 5TH AUGUST 2024 AT 5 P. M. AT THE VIDYASAGAR HALL OF THE SOCIETY

MEMBERS ARE REQUESTED TO KINDLY ATTEND THE MEETING

AGENDA

1. Confirmation of the Minutes of the last Ordinary Monthly General Meeting held on 1st July 2024.
2. Exhibition of presents made to the Society in July 2024.
3. Notice of Intended Motion, if any, under Regulation 49(d).
4. Matters of current business and routine matters for disposal under Regulation 49(f).
5. Consideration of reports and communications from the Council as per Regulation 49(g).
6. Consideration of names of members to be announced and suspended as defaulter under Regulation 32 of The Asiatic Society.
7. The following paper will be read by Professor Durga Basu :
   "Excavation at Kankandighi—An Early Medieval Buddhist Site in South 24 Parganas"

1 Park Street, Kolkata-700016
Dated : 19.07.2024

(S B Chakrabarti)
General Secretary

PAPER TO BE READ

Excavation at Kankandighi — An Early Medieval Buddhist Site in South 24 Parganas

Durga Basu
Former Head, Department of Archaeology, University of Calcutta

The Jambhala statue recovered from Kankandighi

The Department of Archaeology at the University of Calcutta, led by Professor Durga Basu, conducted an excavation at Kankandighi (Pilkhana mound) in South 24 Parganas. The objective was to discover an early medieval Buddhist settlement in the Mani River basin in South 24 Parganas. The excavation was carried out with the assistance of other faculty members, departmental staff, and postgraduate students. The South 24 Parganas district is known for its rich cultural heritage, with well-established settlements dating back to ancient times. The region experienced a constant cultural growth that reached its peak during the early medieval period. Various archaeological investigations have revealed the presence of both Brahmanical and Buddhist settlements in this region, together with their material cultural relics. However,

these early investigations were not sufficient to provide a comprehensive understanding of the region's past. In addition, certain unresolved matters pertaining to the early medieval culture of West Bengal exist. In order to address significant issues pertaining to material life and uncover unidentified structural remains to gain insight into the nature and characteristics of early medieval settlements, as well as determine the cultural sequences and antiquity of the region, the department selected the site of Kankandighi for excavation for the first time.

Kankandighi is situated in the South 24 Parganas District, under the jurisdiction of Raidighi Police Station. It is positioned on the bank of the Mani River, with coordinates of latitude 21°59' to 22°0' N and longitude 88°26'30" to 88°27'30" E. Kankandighi is located approximately 12 Kilometers Southwest of Mathurapur railway station, which is part of the southern stretch of the Sealdah Lakshmikantapur branch line. The site was initially documented by the late Kalidas Dutta in his paper 'The Antiquities of Khari' in the *Annual Report of Varendra Research Society*, 1928-29. Dutta emphasised the significance of the site in his publication. Later, D.K. Chakrabarti, N. Mukhopadhyay, and other scholars documented the importance of the site and described the archaeological artefacts found at the site and its neighbouring regions. Subsequently, the Directorate of Archaeology and Museum, under the authority of the Government of West Bengal, carried out an exploration at this location. The Department of Archaeology, University of Calcutta, conducted extensive exploration at Kankandighi in March-April 2013. Situated in the river valley of Mani, the region was previously enveloped by thick woodland, rendering it an impervious terrain during the British era. In due course this terrain covered in trees transformed into a region that was easily accessible and suitable for human habitation. Raidighi, opposite to the site of Kankandighi, is commonly referred to as the gateway to the Sundarban region.

The village of Kankandighi is primarily divided into two main sections, namely Uttar Kankandighi and Dakshin Kankandighi. From an archaeological perspective, Uttar Kankandighi holds greater significance compared to Dakshin Kankandighi. The mounds located in the northern region of Kankandighi are undulating and are commonly referred to as Danga by the local population. Various mounds can be observed at various locations of Kankandighi. Out of all these mounds, the Pilkhana mound near Mondalpara has been found to contain a structural mound that was excavated by the Department of Archaeology. This present discussion will focus on the scientific excavation conducted at this site, which has successfully resolved certain issues pertaining to early medieval cultural history. Additionally, this investigation has also brought forward new unresolved problems.

President's Column

Radhanath Sikdar: A Scientist Ignored and Bypassed

Radhanath Sikdar (1813-1870) had shown his brilliance even in his early years when he was a student of Hindu School. A Hindu School Brochure featured Radhanath as a prominent alumnus along with some others during his contemporary period like Debendranath Tagore, Dakshina Ranjan Mukherjee, Michael Madhusudan Dutta, Mahendralal Sarkar or Keshab Chandra Sen. Due to his brilliance, Radhanath earned scholarship of Rs. 16 in 'First Class', which is equivalent to class X of today's time for the age group of 15-16 years. Even in his student days, he had control over multiple languages like English, Sanskrit, French, Greek and Latin while he excelled in areas of Mathematics and Philosophy. He was deeply influenced by the maverick thinker Henry Louis Vivian Derozio, who taught in the school at that time. He was particularly close to one of his teachers, John Tytler, who made him interested in Western Studies and Isaac Newton's Principia Mathematica. Many years later, in 1870, in an obituary of Radhanath, the *Hindu Patriot* noted that he was the first Bengali youngster to receive lessons in maths invented by English Mathematician Newton and French Polymath Pierre Simon Laplace. The progressive mindedness of Radhanath became evident when at that age, he turned down his mother's proposition that he should marry an eight year old girl. Eventually Radhanath remained a bachelor during the rest of his life.

The Late Researches and the Late Recognition of Radhanath

We have stated in our headline of this write-up that Radhanath was ignored and bypassed during his life time. It is only recently and much after the anonymous death of Radhanath in 1870, that people started researching and acknowledging the crucial role of Radhanath as a Scientist and as a Geodesist. Facts are being unearthed now through researches made on him. These include an article by Jogesh Chandra Bagal – *Radhanath Sikdar : The Great Mathematician and Discoverer of Mount Everest* in *Modern Review*, Vol-53, No-4, Books by Ashish Lahiri— *Radhanath Sikdar and Colonial Science— An Indian Surveys an Unchartered Terrian*, Dr. Sankar Nath (who is our Asiatic Society's Medical Secretary)— *Radhanath Sikdar – A Forgotten Scientist* (1813-70) and also another publication by him— *Radhanath Sikdar— Tothyer Aloi* (in Bengali); and by Sukumar Chakraborty *Radhanath Sikdar: Itihaser Tragic Nayak* (in Bengali). A research hub also exists in Chandannagar, the place of his residence, in the name of Giri Dut: Radhanath Sikdar Himalayan Museum and Rashbehari Research Institute, which is headed by Kalyan Chakravarty. There has been a recent website publication by Ratna and Nalim Siraj entitled *Radhanath Sikdar and Mount Everest: A Himalayan Mystery*, dt. May 17, 2024. The Federation

of Scientists, Engineers and Technologists (FOSET) located in Kolkata remembers Radhanath every year and pays homage to the bust of Radhanath, which is situated in the precincts of The Asiatic Society. The Asiatic Society pays homage to Radhanath Sikdar by arranging talks on him on various occasions.

The Discovery

While in Hindu College, Radhanath had shown great talent in pursuing Mathematics and other sciences. Dr. John Tytler, a teacher of Mathematics in the college recognised this talent of Radhanath. Dr. Geroge Everest, the then Surveyor General of India was looking for some new talents to work for the Great Trigonometrical Survey of India, which was established to carry out Geodesic Survey work. Being approached for some names fit to carry out this work, Dr. Tytler highly recommended Radhanath's name for that type of job. So, in 1931, when only 19, Radhanath joined the Great Trigonometrical Survey of India as a 'Computor'. Soon, Radhanath proved himself for this type of Survey work. George Everest once said, "In his mathematical attainments, there are few in India, whether European or Native that can at all compete with him and it is my persuasion that even in Europe, those attainments would rank very high." Radhanath started working for geodesic surveying in the Dehradun area. The surveying work was done by him not only with the conventional process but also with methods invented by Radhanath himself. Between 1845 and 1850, a total of 79 peaks of the Himalayas were observed for measuring their height, 31 of which have their local names and other peaks were given some numbers. The peak XV, which was given a subsequent nomenclature as Mount Everest, was identified as the highest peak of the world. The whole exercise was done by Radhanath, while he was working from the Calcutta office as the 'Chief Computor'. The total calculations by taking all the data were done by Radhanath at the Calcutta office and the highest peak of the world came out to be 29002 feet. In 1856, it was officially announced by the Royal Geographical Society to be the highest peak of the World and was named after George Everest, who having retired as Surveyor-General in 1843, was nowhere connected with the exercise. Andrew Waugh, the Surveyor-General in 1843-1863, ordered that the identification of the peaks must be left to the computers and Radhanath Sikdar was the Chief Computor. Meanwhile, Radhanath quickly rose through the ranks to become the 'Chief Computor'. As the team leader, Radhanath studied the top secret readings dispatched to him in his Calcutta office from seven locations around the Himalayan peaks. It is well documented that he used his expertise in maths, trigonometry and geodesy to calculate and conclude that peak XV was the world's highest peak. Before that, while Radhanath, the GTS Chief Computor was tasked to lead the big mission, he was strangely transferred to Calcutta from where he started carrying on piloting the top secret project. The readings of the peaks were carried on from seven different locations around the Himalayas and these were sent to the Calcutta office. Armed with all the readings, Radhanath focused on scrutinising the readings in order to piece together how high the peak XV was compared to the other peaks. That was how the discovery was made.

Through Sikdar's name was not officially recognised until much later, an internal report presented to the British Parliament in April 1851, mentioned him appreciably. Regarding the work of GTS, the report said "A more loyal, zealous and energetic body of men than the sub assistants forming the civil establishment of the survey department is nowhere to be found . Among them may be mentioned as most conspicuous for ability, Babu Radhanath Sikdar, a native

of India of Brahmanical extraction whose mathematical attainments are of the highest order." This internal report submitted to the British Parliament was unearthed by Utpul Mukhopadhyay, in an article published in 2013 in a Magazine *Dream 2047* run by the Vigyan Prasar of the Indian Science and Technology Department.

But, back then, at the public and the official level, there was no recognition of Radhanath by the colonial government. On the other hand, though there was frequent communication between Waugh and Radhanath at the final stages of computation, the all important letter from Radhanath to Waugh communicating about the discovery of the highest peak was nowhere to be found. Author Ashish Lahiri, while researching on the developments, visited the National Archives, assessed the official letters ranging from 1851 to 1861 between Radhanath at his Calcutta office and various survey of India. Officials, especially Waugh in Dehradun but the all important letter communicating about the discovery of the highest peak, was nowhere to be found. As Ashish Lahiri has said, "Pursuing the matter all the way to Delhi was a thrilling experiment. It took me a while to find the records. They were preserved in large notebooks in the Department of Cartography at the National Archives. As I shifted through the letters exchanged between Radhanath and Waugh, I was inching towards the phase (in 1852) when that important communication would have happened." Lahiri's comment is worth-noting, "Something is possibly wrong. I don't know exactly what it is. But it does strike me as odd. I even found the document about the final calculation that Radhanath had done. But I just don't know why this letter was missing. It is a million dollar question. Something is not right about it, I suspect."

One would have imagined that Radhanath's stature in the Survey of India office would grow enormously after the discovery. But that was not to be. It was only in March, 1856, four years after the discovery, when Surveyor-General Waugh sent an official letter to his deputy Henry Thuillier, conveying his decision to name peak XV as Mount Everest. So, there were concerted attempts to downplay Radhanath's leading role in the findings. It was on August 6, 1856, that world came to know that peak XV in the Himalayas was the highest mountain in the world and that it would be named after the former Surveyor-General of India, George Everest. Henry Thuillier, Waugh's deputy at the GTS, broke the news to a gathering at The Asiatic Society of Bengal in Calcutta. Thuillier made no mention of Radhanath and his role as the Chief Computor during the announcement. Though Radhanath was the Member of Asiatic Society by that time it is not known if he was present in the audience at that time of making the announcement. It is of interest to write here that shortly after Thuillier made the above announcement at the meeting of The Asiatic Society, a few member of The Asiatic Society protested against the naming peak XV after Everest, arguing that the Survey of India should have opted for a local name of the Mountain. That the Survey was defensive on the point will become apparent from time fact that less than three weeks from that announcement, on August 25, 1856, Waugh sent a letter to Radhanath stating, "I'm glad that the name Mount Everest, I've given to the highest snowy peak has given satisfaction to yourself as well as other superior members of the computer department." And in 1865, nine years after Thuillier's announcement The Royal Geographical Society (RGS) in London publicised the name Mount Everest. On this point, author Sukumar Chakravorty's angry retort was that, "The Britishers were playing politics with the peak's name. They claim that they didn't know about any local name. They were telling lies-sheer lies. Long

back in Paris in 1733, a map was published identifying that peak with a local name viz. 'Chomolungma'. So the practice of either adopting a local name for that peak or naming it after Radhanath the discoverer was rejected. This was sheer racism on the part of the colonial government."

It was only in November 1904 in an article in *Nature* that the British Army Officer Sidney Burrard, who later became the Surveyor-General of India that Sikdar's name was officially recognised. After this partial recognition in that article, in 1921, there was a clear recognition of Radhanath Sikdar's feat. When the British special operation expert Francis Younghusband revealed in the foreword to C.K. Howard Bury's book—*Mount Everest: The Reconnaissance*, *1921,* that "Radhanath Sikdar was the name of the individual who discovered that peak XV was the world's highest mountain. But Younghusband's another claim that Sikdar broke this news to Waugh in person was false and was a dramatization of this event. On this point Dr. Nath's comments are worth-noting, "Radhanath was working from his Park Street office in Calcutta at that time while Waugh was based up north in Dehradun. That fact is more or less established. Therefore it was not possible for the dramatic face to face interaction to have happened. Sadly, Younghusband's version of the story muddled the waters further."

An Uneasy Relationship with the Colonial Masters

The uneasy Relationship with the Colonial Masters came to a culmination when in 1862 Radhanath wrote that he wanted to quit because 'physically and mentally' he was unable to do the job. Though in response to this letter the GTS chief wrote back to Sikdar to reconsider the decision as he was the 'brightest jewel' on the Survey of India team. Sikdar insisted and retired from service in March 1862 at the age of 49 settling into a new life in the French colony of Chandannagar.

While in office, Radhanath always asserted himself whenever he found that some wrong was being done. Dr. Nath has mentioned an interesting episode. It occurred in 1843 when Radhanath was posted in Dehradun as the chief computor. He found that a few numbers of his labourers are being forced to labour without remuneration by the then District Magistrate Dr. Vansisttart. Seeing this, the chief computor rushed out of this Bunglow and brought his coolies back along with the goods of the Magistrate. So even at that young age, Radhanath confronted the high level District Magistrate protesting against the practice of free lobour to serve the colonial masters. Though a court case was brought against him by the District Magistrate, Radhanath did not relent and even paid a fine of Rs. 200 slapped on him by the local court on this issue.

The humiliation of Radhanath and distrust of him was evident from two other incidents which Radhanath had to face. Firstly, he was transferred from Dehradun, his principal field office where he was functioning as 'Computor' to the Calcutta office. Andrew Waugh, the Surveyor General in 1843-1863, ordered that the identification of the peaks must be left to the computers and Radhanath Sikdar was the Chief Computor. So Radhanath was transferred to Calcutta. But as soon as Radhanath retired in 1862, the office was brought back to Dehradun. It has been commented that Radhanath's banishment from the theatre of activity was driven by racism and superioritism.

Secondly, while computing the methodology of calculation, Radhanath made some original and innovative calculation. All these were made clear and a publication of a book entitled *A Manual of Surveying for India*. Radhanath's contribution was acknowledged in the Preface of the first edition (1852)

and also its second edition (1855). Even Lt. Colonel's Waugh made the following remarks about Radhanath in relation to this book "The masterly character of the Papers contributed by him to the Manual of Survey has been favorably acknowledged in the Calcutta Review as well as the remarkable purity of his style in writing and severe accuracy of his language, so different from the florid exuberance of orientalism."

But, surprisingly, in the third edition of this book published in 1875, five years after the death of Radhanath Sikdar, his name was totally abolished from the Preface. The name of Captain Smith came after Thuiller's as an author. The *Friend of India* in January, 1876 brought this regrettable plagiarism to the notice of public and called it as the 'robbery of the dead' when it said, "This book has been before the public for about a quarter of century and in this third edition, the direction of the wind is shown by the omission in the Preface of proper respectful acknowledgement to the best of the original author of the compilation, and the debt due to Radhanath Sikdar is wholly unacknowledged. Penance must be performed for this cowardly sin and robbery of the dead."

Radhanath: An Unsolved Mystery

In a May 17, 2024 website publication entitled *Radhanath Sikdar and Mount Everest: A Himalayan Mystery,* it was commented "For a tiny branch of historians and writers who dedicated their lifetime studying him, the story of Radhanath Sikdar is much more than just about calculating the world's tallest peak. This story is an enormous Himalayan Mystery—unexplored, unsolved and uncanny. A mystery that involves his unclear death, an unclaimed grave, an elusive letter and a missing diary."

Firstly, about his unclear death and unclaimed grave, it is a fact that Radhanath shifted to Chandannagar immediately after being transferred to Calcutta from his Dehradun office. The motif for his being located in Chandannagar, a French Colony after coming back to Calcutta appears puzzling in view of the fact that Radhanath was involved in a highly confidential and delicate task involving his colonial masters the British— who had a declared hostility towards the French. Then, there are unclear and uncertain information about Radhanath's residence at Chandannagar and his purported death. There are conflicting claims about Radhanath's exact residence at Chandannagar and the exact location of his grave – grave because Radhanath converted to Christianity at very early stage of his life. Dr. Nath in his book referred to earlier even visited the mystery grave at the Sacred Heart Cemetery in Chandannagar and met the cemetery authorities but they could not trace any registry showing Radhanath's name. Though the local people believe in and pay homage to an identified grave of Radhanath there. On this point Ashish Lahiri has commented, "I gave them a visit and had a good look at the papers the church has about those who are buried at the cemetery. I did not find Radhanath's name on those lists. So, when did he die and where is his grave?"

Secondly, regarding the 'letter' and the Diary, it is true that when Radhanath discovered the highest peak , he was located in Kolkata and his office boss was in Dehradun. So, there cannot be any credibility to a story that Radhanath rushed to Mr. Waugh's office declaring about his discovery. This must have been communicated by Radhanath through a letter written to Waugh – but where is this letter? Ashish Lahiri, who has done painstaking research on this point, visited the National Archives of India in New Delhi, hoping to trace the elusive letters. He accessed the official letters ranging from 1851 to 1861 between Radhanath from his Calcutta office and various Survey Of India officials, especially Waugh in Dehradun. But he was perplexed to discover that the

letter communicating that big discovery was not there. "He located the letters that were exchanged between Sikdar and Waugh leading up to the big discovery and after that but the letter about the final calculation? It was not there." Something is possibly wrong. I do not know exactly what it is, but it does strike me as odd, says Dr. Lahiri.

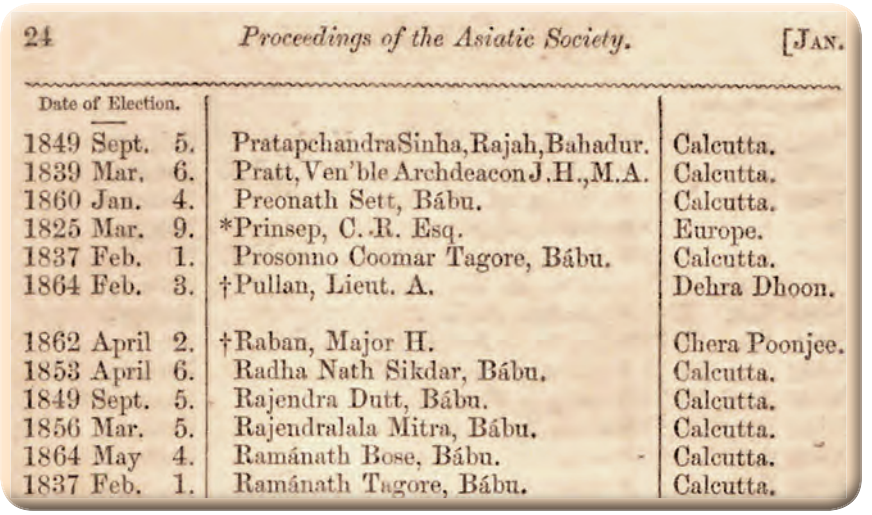
And about the missing diary of Radhanath, though there are very clear references of Radhanath maintaining his diary, this diary is never to be found. There are some beliefs that Radhanath apparently wrote about his father Tituram's thoughts in his diary sometimes in 1853 when Radhanath wrote that his father regretted three things towards the end of his life—"going blind, his daughter not having any children and Radhanath not staying a Hindu." About Radhanath being converted to Christianity. Dr Nath has quoted from a rare document which he discovered. As he says, Mr. Marshman, while testifying before the Select Committee on Indian Territories in July, 1853, made a claim that Sikdar had converted to Christianity towards the end of 1852. As Marshman deposed before the said committee, "I will particularly mention the case of an individual of the name of Radhanath Sikdar as he threw up his own creed, and embraced Christianity and has been baptized". Radhanath enthusiasts are still looking for that diary which may reveal many unanswered questions. But his personal diary somehow went missing. It was last known to have been in possession with a Bengal-based Derozian Ramgopal Ghosh but he did reportedly refuse to share this precious diary or its contents publicly despite requests from various people.

Radhanath, the Meteorological Observatory and The Asiatic Society

We should also mention here the fact that the year in which Radhanath was busy with the Himalayan mission, he was also appointed by the Survey Of India to head Calcutta's Meteorological Observatory. Actually he was doing two full time jobs at the same time, from the same office. He retired from the Survey of India on March 05, 1862 at the age of 49. Later that year, he joined the General Assembly's Institution in Calcutta as a senior Mathematics teacher. This institution is now known as the Scottish Church College.

Radhanath's contribution to Meteorology is also worth-noting. Immediately after assuming charge of the Calcutta Observatory, Radhanath prepared a table for reduction of barometric observations to 32^0F for which he had to develop his own formula. He pointed out that the temperature reduction was to be applied on two counts; the thermal expansion of the brass scale attached to the barometer and dilation of the mercury column in the tube. This observation made its possible to compare pressure observations taken at different points of time. A note describing Radhanath's formulae was communicated to the *Journal of the Asiatic Society of Bengal* by the Deputy Surveyor General Col. H.L Thuiller and it was published by the *Journal* in 1852 (Vol 21. No 4-pp. 320-322)

Radhanath also studied in 1853 a time signaling service for ships, based upon observations of the movement of stars across Calcutta. Radhanath's mathematical expertise won him in 1864 a corresponding membership of the Society of Natural History, Bavaria – a rare honour in those days to be awarded to a foreigner by the highly conservative German Philosophical Society. He was also elected as a Fellow of the Royal Astronomical Society. Within the country, Radhanath was a pioneer in spreading technical education and women's education. Together with Pyari Chand Mitra, also known as Tekchand Thakur, Radhanath founded a magazine *মাসিক পত্রিকা* in 1854, meant exclusively for ordinary women in Bengal. In the Preface to this Patrika, it was written, "এই পত্রিকা সাধারণের বিশেষতঃ



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Date of Election.		
1849 Sept. 5.	PratapchandraSinha, Rajah, Bahadur.	Calcutta.
1839 Mar. 6.	Pratt, Ven'ble Archdeacon J.H., M.A.	Calcutta.
1860 Jan. 4.	Preonath Sett, Bábu.	Calcutta.
1825 Mar. 9.	*Prinsep, C.R. Esq.	Europe.
1837 Feb. 1.	Prosonno Coomar Tagore, Bábu.	Calcutta.
1864 Feb. 3.	†Pullan, Lieut. A.	Dehra Dhoon.
1862 April 2.	†Raban, Major H.	Chera Poonjee.
1853 April 6.	Radha Nath Sikdar, Bábu.	Calcutta.
1849 Sept. 5.	Rajendra Dutt, Bábu.	Calcutta.
1856 Mar. 5.	Rajendralala Mitra, Bábu.	Calcutta.
1864 May 4.	Ramánath Bose, Bábu.	Calcutta.
1837 Feb. 1.	Ramánath Tagore, Bábu.	Calcutta.

A record book at The Asiatic Society of Bengal that bears Radhanath Sikdar's name as one of its members.

স্ত্রীলোকদের জন্য ছাপা হইতেছে। যে ভাষায় আমাদিগের সচরাচর কথাবার্তা হয়, তাহাতেই প্রস্তাব সকল রচনা হইবেক। বিজ্ঞ পণ্ডিতরা পড়িতে চান পড়িবেন, কিন্তু তাহাদিগের নিমিত্তে এই পত্রিকা লিখিত হয় নাই।"

It may also be mentioned here that Pyari Chand Mitra's famous novel *আলালের ঘরের দুলাল,* written in colloquial language was published here.

Not much is known about the association of Radhanath with The Asiatic Society of Bengal excepting the following facts.

- That Radhanath became a member of Asiatic Society of Bengal in 1853, is well known.
- That in 1858, Radhanath was inducted as a member of its Meteorology and Physical Science Committee.
- That, Radhanath's Formula regarding measurement of temperature reduction was communicated to the Asiatic Society of Bengal by the Deputy Surveyor-General Colonel H.L.Thuillier and it was published in the *Journal of the Asiatic Society* in 1852.

On August 6, 1856, Surveyor-General Andrew Waugh's Deputy Henry Thuillier breaks the news to the audience at the Asiatic Society of Bengal that the world's tallest peak has been determined and named after George Everest. *The London Times* published the news. It is not known if Radhanath Sikdar was present there among the audience or not. And it was only later in that month on August 25, 1856 that Andrew Waugh sent a letter to Radhanath, writing that he hoped that the chief 'computor' and his team members like this plan to get peak XV named after George Everest.

Further research is necessary to know in more details about Radhanath Sikdar's involvement with the Asiatic Society.

Swapan Kumar Pramanick
President

This write-up about Radhanath is based on the documents given to the present writer by the Radhanath Sikdar Bicentenary Memorial Committee of the FOSET. Every year the FOSET comes to Asiatic Society to garland the bust of Radhanath Sikdar located in Asiatic Society.

An Unturned History of a University

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Prelude

It was the last phase in the history of the Cellular jail in the Andamans. The time was from 1932 to 1938. The first batch of political prisoners, twenty-five valiant warriors of the Chittagong Armoury Raid started for the Port Blair on 15 August 1932 by the vessel, *Maharaja* from Calcutta. Thereafter batches after batches arrived at the Aberdeen jetty for the Cellular jail to lead their gloomy imprisoned life. In this phase, about 352 prisoners from Bengal were confined in the Cellular Jail, though the total number of political prisoners was 396.

During these days, the political prisoners who had been deported to the Andamans had been treated mercilessly as always. Though the oil-mills had been stranded, they were engaged in another hard jail task, like 'Ban-making' i.e., coir-work. The food was insufficient and of low quality not to be given to the human being. Medical facilities were inadequate and denied. They were often humiliated and threatened with punishments. The sufferings and privations that were forced on them had no limits.

They, like their predecessors (in the first phase – 1909-21), resorted to hunger-strike in May 1933 in which the nation lost her three valiant sons, Mahabir Singh, Mohan Kishore Namadas and Mohit Mohan Maitra due to force-feeding.

The jail authority finally surrendered. The strike was withdrawn after 55 days on 26 June 1933.

A University

All punishments were withdrawn. The attitude of the jail officers had undergone a radical change. The political prisoners dealt by the authority did not find any lack of courtesy. They no more had to face indignities in their daily life, the life had been made more tolerable.

Bejoy Kumar Sinha penned – "The morrow of a victory is always so pleasant. Besides, we were in jail with enough leisure to make merry and enjoy the fruits of the triumphant struggle". After the strike was withdrawn, a long list of facilities were granted to the political prisoners.

Now they were given the right to subscribe magazines, both Indian and foreign, that were on the government's prescribed list. The government provided them with furniture for a prison library and reading room. Periodically, books were also purchased by them from their own contribution. Lights were now supplied in all the cells till ten in the night for the ease of reading books. At government expense, the weekly overseas, *Statesman, The Times Illustrated Weekly*, the Bengali weeklies – *Sanjibani* and *Bangabasi*, as also the Hindi edition of the latter were supplied.

In the new order of things, studies and discussions became the most significant feature. A few revolutionaries formed a small group and jointly began studies on their own selection. Some busied themselves with the

pages of ancient Indian history and culture; others read modern European history. Many of them were youngsters, who could not complete their college course due to arrests, renewed their college studies. Lectures on elementary biology, physics and chemistry etc. were organized. An amazing variety of books on different subjects were read in succession. Cheiro's *Palmistry*, Hazen's *Europe since 1815*, Bertrand Russel's *Roads to Freedom*, Sarat Chandra Chattopadhyay's *Sesh Prasna*, Rabindranath Tagore's *Sesher Kobita* – such diverse books were supplied to the readers.

The majority of the revolutionaries arriving at the Cellular jail had been from Bengal, belonging to Anushilan, Jugantar, Revolting Party and the Sri Sangha. Those coming from provinces other than Bengal were the gallant warriors of the Hindustan Socialist Republican Association (HSRA). The revolutionaries started reviewing their activities in the past among themselves. They seek the reason in the class-character and the composition of the movement. B. K. Sinha writes, "In the world history wherever a petty bourgeois class has endeavored to form revolutionary cadres exclusively from within its own ranks, and carry on its secret conspiratorial activities isolated from the masses, the movement has manifested distinct signs of anarchism." Thus, began the process of self-criticism. They were gradually realizing their mistakes. To gain the necessary knowledge and perspective they had only one way left open to them which was to take serious systematic studies.

Subodh Roy, the youngest of the one who belonged to Chitatgong Armoury Raid and deported in the first batch to the Andamans in August 1932, writes in his Memoir, "Dr. Narayan Roy and Niranjan Sengupta arrived at Cellular Jail with a trunkload of literature on socialism, communism, and the Soviet Union. They were both from Bengal, and pioneers in preaching communist ideology among political prisoners in the Andamans."

Bejoy Kumar Sinha called the Cellular jail as 'a university for the politicals'. A university atmosphere was created. "We became the students not of schools and colleges that we had left long ago, but of a university, our own creation, that was to equip us for future life, that was to impart us revolutionary political education." A large number of the political prisoners had received university education. There were others who by continuing private studies had acquired enough knowledge. Some of them had ideas of mass movement, gained during the outside work in the Congress, youth associations and labour unions. They became the teachers at this university.

University career at the Cellular jail began. There were holidays, forced and voluntary. Holidays were for periodic recreations like, annual Durga Puja and sports etc., but after the termination of each holiday, classes would run with redoubled enthusiasm.

The classes on philosophy and sociology were started first. The students were from different levels of education so they had to be divided in three categories. Dialectical materialism, teleology had been included in the syllabus. Besides, at every step, elementary principle of natural science – physics, chemistry and biology etc. had to be taught in a story form. The students had to survey from Plato to Green and Bosanquet of the Idealist school and again from the eighteenth century mechanical materialists to the latest dialectical materialism. The first few classes on sociology and philosophy extended well over six months.

After the completion of the courses on philosophy and sociology, classes were organized on world history, with greater stress on modern period, strategy and tactics, and on economics. History as a subject started from the beginning in primitive communism to the world capitalist order. The different

phase of the society – patriarchal, feudal and the capitalist – were discussed in full length of their rise and decay. The classes on strategy and tactics were conducted simultaneously. Various struggles in the world history were discussed in details. As a third subject, Marxian Economics was taught. In concrete studies of these three subjects, more than a year lapsed.

From the beginning, a committee was formed called 'Study Board' whose function was to direct the whole studies. To it complaints and reports from different classes used to come. The demands of students, their difficulties etc. were promptly communicated to it. The number of teachers was over thirty. Periodic teachers' conferences were organized by the board where they discussed their experience and new lines were chalked out. Discipline in the classes was also enforced by this board. Both in the morning and the afternoon, classes were held. On an average, one student attended four classes in six hours. Some of the teachers were in heavy demand for their popular mode of teaching and they had to conduct the classes from the early morning till night. They were getting exhausted and hardly getting any time for their own studies. The board ultimately intervened and prescribed the maximum number of hours that a teacher could take.

The division of students into different categories was done by the board. Periodically, advanced students were promoted to a higher category. Classes and lectures had to be repeated for the newcomers. To pay individual attention to the learners who stood in need, the board arranged for special classes outside the general classes. The only difficulty felt was that a significant number of students did not have sufficient knowledge in English. However, the books were all in English and the teachers taught in English. There was a demand for translation of important books. The board arranged for such translations but could not achieve much progress into this matter. Besides, demand for more concrete studies reached the Study Board. A teachers' conference was called, opinions of all students were collected. Subsequently, the subject 'India' was then taken up with an emphasis on Indian politics and economics.

In starting the classes on India, the main problem as had been faced was extreme paucity of books. Most of the recent books which the political prisoners purchased were censored and withheld. Still an idea can be formed from some books which though rigidly censored were – *Glimpses of World History* – Jawaharlal Nehru, *Provincial Autonomy* – K. T. Shah, *India Analysed* – all volumes, The Indian National Congress brochures on economics and politics. Of the Indian magazines they were given to read *Mysore Economic Journal and Indian Review*, Hindi *Vishamitra* and *Vishalbharat*. Bengali *Prabasi* and like magazines were not allowed to subscribe. No dailies were supplied. Much of the Indian news also was taboo. Only the weekly, overseas *Statesman* contained little political news. However, the authorities censored by blackening columns after columns with press ink.

However, Modern Indian History of the Industrial Revolution of the 18th century, the Mutiny of 1857 were studied. In this causation, the birth and development of an Indian industrial capitalist class, the rise of a petty bourgeois intelligentsia, growth of a permanent landlord class as henchmen of British Imperialism, the pauperized peasantry exploited by the landlords, mahajans and government – all were taught and discussed thoroughly.

For reading of modern international history and politics, there were sufficient number of good books, as fortunately the censoring authorities were comparatively liberal in this sphere. In the first part, fascism was studied in details. Reading the June

massacre in Germany, all felt their class acquaintance and drew great sympathy for the victims.

The second part consisted the study of Soviet Union. It need not to be said that this inspired the revolutionaries with immense hopes and courage. The wonderful story of the successful Five-year Plans, that were raising standard of living of the Soviet citizens in contrary to the surrounding countries all over the world, crisis was deepening and thousands were dying in hunger and cold – gained ovation to the revolutionaries.

The third part formed the study of Imperialist governments, specially of Great Britain. Roosevelt, Hitler and Mussolini were worked out. Japanese imperialism was engaging attention.

The fourth part related to the worldwide colonial struggles. The Indian revolutionaries now stood in front of the lessons extracted from various struggles. Experience of De Valera of Ireland, who fought against the British, the history of Chinese Revolution, the history of the class organisations of the peasants and workers, civil wars – all were included in the syllabus.

The fifth part was related to the application of United Front principle. An Anti-Imperialist National Front in India was growing. The students had to draw lessons from the successful working of the United Front tactics in different countries. Therefore, they had to study closely the contemporary history of France and Spain where the popular front had been most effectively launched to check the tide of fascism. Besides, they had also to study the workings of Popular Front in the presidential elections of Czechoslovakia and America, in the Belgian bye-election against the Rexist leader and lastly in some smaller countries of Latin America.

Post-War working-class history had to be read minutely. The proletariat was growing politically in India. The working-class movement in the country had many currents and cross-currents and their significance could be gauged properly from an examination of the history of the labour movements in advanced European countries. In this course, the students gave special attention to the history of Labour Party governments in England and the betrayal of 1926 strike, the post-War revolutions in Central European countries and the surrender of the reformist leaders, the disastrous workings of Social Democratic Party's 'Lesser Evil' policy before the fascist attack, the phenomenal growth of Committee for Industrial Organisation as a rival to the old established American Federation of Labour of the United States of America, the new technique of the stay-in strikes, and the Commintern and its national sections.

The 'Role of Petty Bourgeois in History' formed a special part of the course. The role of Jacobins in the French Revolution, the part that the Blanquists played later, the story of petty bourgeois Mensheviks and the Social Revolutionaries in the three Russian Revolutions and the anti-Imperialist Student Movements in China and Japan – all were read thoroughly.

By the time the political prisoners in the Cellular jail finished the course, the year 1936 was rolling to an end. From the trend of events, the political prisoners were speculating that they would be repatriated to the country in the near future. Some of the students who joined late in the course approached to the study board and insisted to make special arrangements for them. They said that they were sure that in Indian jails they would not get such facilities for systematic reading, for people would be scattered and confined in different places. Their argument was convincing and the Board consequently appointed a special staff to teach them. A syllabus for six months was drawn up and within this period all the subjects that

formerly the students had studied for three years, were taught in a concise form.

It was also realized that for a mass movement, the worker should have some knowledge of Hindi. Then it became compulsory for all to learn Hindi. The activists who lacked knowledge of English came to learn English by arranging special classes by the board.

The political prisoners, like Bejoy Kumar Sinha, correctly addressed the readings and training followed in the Cellular jail as if it had turned to a 'University' to the activists who were confined there during this era.

Besides regular classes and studies, debate and speeches were arranged at regular intervals. 'School of Journalism' opened with the starting of a monthly hand-written wall magazine, named as *Call*. Editorial Board was formed. Initiating all these activities was aimed at making each comrade a powerful speaker and writer. Beside the *Call*, a large number of periodicals was started. The total number was over a dozen. Ten fortnightlies were started in Bengali and one in Hindi. There was a competition among the publications. Judges were appointed by the Study Board. Every fortnight the announcement of the result was keenly awaited.

The debates on various subjects were arranged. The subject of the first debate was 'The coming war and the Alignment of Forces.' Later, on different occasions Congress Election Manifesto, the National Convention, the Anti-Imperialist Front in India, or the emergence of the Congress Socialist Party were the chosen topics. The Debating Board occasionally organized popular lectures by advanced political leaders.

The main problem with the so-called University was the limited number of books which was on heavy demand. Little stock of books could not suffice the hunger of the readers. Books that were supplied by the government were mostly trash. The rush for books in the library in which the volumes on politics, economics, history, etc., were stocked, was great. But the librarians faced enormous difficulties on issuing them. All important books were issued not for days but for hours. One book would go round from morning till evening through six or seven hands. In some case, the binding of each important book was removed, it was then conveniently divided into several parts and circulated as such.

The Chief Commissioner took some pride on the high level of studies in the 'University'. He was himself a well-read gentleman. He had once purchased for the political prisoners some copies of the books like *Hitler over Europe* and *Inside Europe*. When the Bengal Governor, Sir John Anderson came to visit the prison, the Commissioner told him of the taste of the readers as they need standard books on world history and allied subjects. After his return, the 'University' received a set of books passed by the Secretary, Bengal Government. The students were surprised to find included in it *Theory and Practice of Socialism* by Strachey, and *Foreign Trade in USSR*.

Endsays

With the departure of the Governor of Bengal, minor clashes with the jail authorities began. Most of the troubles started over the medical arrangements and kitchen facilities. In course of repeated conflicts, all forms of jail punishments were awarded to the political prisoners. Of the punishments, most barbaric were the floggings that were inflicted on different occasions.

In 1936, the Government was feeling the growing volume of public agitation for repatriation of the Cellular jail prisoners. The government was forced to send its Home Member, Mr. Henry Craik on a visit to the Andamans. The political prisoners in the Cellular jail handed over a representation to him on 28 April 1936. Among the various

demands, the main unequivocal demand was regarding repatriation to India. Next memorandum was sent to the Secretary to the Government of India, Delhi on 13 October 1936. A supplementary memorandum followed as rejoinder to the Home Member's statement, where he stated the Andamans as a 'Prisoner's Paradise' on 18 October 1936.

It was the year 1937. All have passed three years of their 'University' life. All had been diligent students of dialectical materialism. They had learnt a lot from the books of history, economics or politics and in their debates, lectures and papers, they discussed it. Now they felt tired and restless. The battle drums of the Second World War were being beaten. The political prisoners, who were fettered in the high cold stone-walls now wanted severely to be repatriated to the homeland. Finally, an ultimatum was addressed to the Governor-General, dated 18 July 1937 with copies to many officials. No reply came from any quarter.

Finally, the bugle of hunger-strike was blown. On July 24 1937 around 183 political activists resorted to hunger strike. The number of hunger-strikers finally raised to 230 (among 290 the then political activists confined in the Jail). A communique was published by the Government of India. The news of hunger strike spread over in the newspapers in the mainland. One telegram from Rabindranath Tagore was withheld. Many of the Indian leaders, Jawaharlal Nehru to Md. Ali Jinnah expressed their worries and appealed the hunger-strikers to withdraw the strike. About 153 revolutionaries behind the bars in Deoli, Behrampore, Alipore and other jails had also entered the struggle demanding the repatriation of the political prisoners from the Andamans on 10 August 1937. The questions had also been raised in the Assembly.

At last, on 28 August, a telegram from Gandhiji arrived in the Andamans. The content of Gandhiji's telegram was discussed by the strikers. A communication which was to be sent to Gandhiji was drafted and signed by 225 strikers. The strike was withdrawn after 37 days.

On 22 September 1937, the first batch of 76 political prisoners were repatriated to the mainland. All were on board, the *Maharaja* ready to sail for the mainland. After that one after other batches were repatriated to India. Finally, on 18 January 1938, the last voyage with the dauntless warriors of India had been repatriated to the motherland. The long history of 29 years of the Cellular Jail in the Andamans came to an end by 1938.

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Purna Das: From Revolutionary Secret Society to Gandhian Mass Movement

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Purna Das

Jatindra Nath Mukherjee

In the unfinished memoir of Bangabandhu Seikh Mujibur Rahman (1920-1975), published from Dhaka, the capital city of Bangladesh, the mention of Purna Das (1889-1956) with high admiration astounded me in the recent past[1]. But later I thought, it is obvious that Seikh Mujib would have been aware of Purna Das. They were contemporaries; Seikh Mujib and Purna Das both were hailed from the Faridpur district of undivided Bengal province. Purna Das was from Madaripur sub-division and Seikh Mujib from Gopalgunj sub-division. Phani Bhushan Majumder (1901-1981), a follower of Purna Das, had remarkable involvement in the Mukti Juddha (liberation war) of Bangladesh. He also assumed responsibility of various departments of Seikh Mujib's Government in liberated Bangladesh.

The contribution of Madaripur in India's freedom struggle was incredible. Madaripur is noteworthy for the memories of numerous freedom fighters, revolutionary leaders and patriots. The President of the Lucknow Session of the Indian National Congress, 1916, Ambika Charan Majumder (1851-1922) was a soil son of Madaripur. From this Madaripur, Purna Das initiated his revolutionary activities.

Purna Chandra Das is an immortal name in the history of revolutionary movement of Bengal. The creator of Madaripur Jugantar group, Purna Das was born on 1 June 1889 at Samaj-Isibpur village of Madaripur sub-division[2]. His father was Kashinath Das. After completing his early education in the village,

he got admitted to the Madaripur High English School. He passed the Entrance Examination from this school and got admission in the Bangabasi College, Calcutta. While staying there, he had been arrested with the charges of illegal arms dealing and was released after a few days. Leaving his study incomplete, he had got back to his village and created his own revolutionary group.

Though Punra Das created a revolutionary outfit of his own, he continued a close connection with the revolutionary Jugantar party. Thus the group formed by Purna Das was also came to be known as Madaripur Jugantar group or Purna Das' group. For conducting revolutionary activities this group committed some Swadeshi Dacoity during 1912-13. In 1913, police arrested 87 revolutionaries including Purna Das. Among them was Binod Das (later on, the founder of Bharat Sevashram Sangha, Swami Pranabananda). Outwitted by his subtle intellect, the British government was compelled to release almost everyone of the captivated revolutionaries. Only Baman Chandra Chakrabarti was sentenced to 15 months' of rigorous imprisonment.

In 1914 the World War I was initiated. By this time the revolutionaries of this country planned to bring arms from Germany and overthrow the British rule . The principal role in revolutionary uprising with German arms was taken by the supreme leader of revolutionary Jugantar party, Jatindra Nath Mukherjee (1879-1915), who is popularly known as Bagha Jatin. Like most of the revolutionary groups of Bengal, Purna Das' group also extended their active co-operation to this uprising[3].

Bagha Jatin faced an unequal battle while waiting for the German ship with arms and ammunitions at Balasore of Odisha on 9 September 1915. The next day, seriously injured Bagha Jatin was died at Balasore H. Q. Hospital. Three of Bagha Jatin's four companions in this final struggle, Chittapriya Raychowdhury (1894-1915), Nirendra Nath Dasgupta (1892-1915), Manoranjan Sengupta (1896-1915) were the active members of Purna Das' Madaripur group[4]. The late film director Mrinal Sen (1923-2018) was distant relative of Nirendra Nath Dasgupta. Purna Das had again been arrested under the Defence of India Act and was released in 1919.

When Non Co-operation Movement was started under the leadership of Mahatma Gandhi during 1920-21, Purna Das participated in the movement. In 1921 Purna Das created a volunteer force, Shanti Sena with the nationalist youths. Kalipada Raychowdhury was appointed the commander of Shanti Sena. Panchanan Chakravortty, Jagneshwar Das, Promod Basu Roychowdhuri and Suraj Roychowdhury were the supervisors. Purna Das was the supreme leader and advisor. Hundreds of Shanti Sena conducted a 36 mile long route march to participate in Bengal Provincial Conference at Barisal in the March 1921. This youth force had created great excitement among the then leadership and common people.

The British Government put Purna Das behind the bars again in 1921. This time he was released after an imprisonment of 18 months. When Deshbandhu Chittaranjan Das created Swarajya Party, Purna Das joined him. In 1920s he had to spend a long time in jail. During this period he was imprisoned with Subhas Chandra Bose at Mandalay prison in Burma. He was released in 1928.

In the December 1928, the Annual Session of Indian National Congress was held in Kolkata. The President was Motilal Nehru. Subhas Chandra Bose was the G.O.C of the Congress Volunteer Corps. Purna Das was one of the Colonel. In 1929 Purna Das became the General Secretary of Bengal Provincial Congress Committee. In 1930 Gandhi called for the Civil Disobedience Movement. Purna

Das got himself involved in Salt Satyagraha, attached to this movement. He had been re-arrested and was released in 1938. Purna Das joined Forward Bloc when Subhas Chandra Bose created it. He was arrested in 1940 and released in 1946. Kazi Nazrul Islam once composed a song welcoming Purna Das on the occasion of his release. In this song, Nazrul called Purna Das Faridpurer Farid, 'Madaripurer Marddabir'. Once Purna Das and Nazrul were imprisoned at the same time at Berhampur jail[5].

In August 1947, India became bifurcated and independent. The tide of refugees from East to West Bengal was overwhelming. Few years later Purna Das left active party politics but continued his service as a member of the Refugee Rehabilitation Board, West Bengal. This great revolutionary had been stabbed in the hand of an assailant and consequently died on 4 May 1956. If the biography of Purna Das is gone through, one can also notice how the emergence of the father like figure Mahatma Gandhi in Indian political scenario and the constitutional reform by British Government brought transformation in the life of a revolutionary.

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Book Release Programme

The Asiatic Society organised a release programme of the English Translation of the book *Mukundaram Cakrabarti's Candimangal* by France Bhattacharya on 1 July 2024 at 3.00 p.m. in the Humayun Kabir Hall of the Society. In the beginning, Professor Syamal Chakrabarti, Publication Secretary described the endeavour and introduced the speakers of the programme. Dr. Satyabrata Chakrabarti, General Secretary delivered the Welcome Address. Professor Chinmoy Guha, Professor Emeritus, University of Calcutta spoke on 'Translation and Translator'. Dr. Ramkumar Mukhopadhyay, Member of the Publication Committee, The Asiatic Society delivered a speech on 'Different Perspectives of Candimangal'. Professor Pallab Sengupta, Former President of the Society underlined the 'Importance of this Translation' in his lecture. After that, Professor Basudeb Barman, Vice-President of the Society made the formal release of the book and delivered Presidential Address. At the end, Dr. Sujit Kumar Das, Treasurer of The Asiatic Society gave the Vote of Thanks.

L to R : Dr. Ramkumar Mukhopadhyay, Dr. Satyabrata Chakrabarti, Professor Basudeb Barman and Professor Pallab Sengupta

হলওয়েল মনুমেন্ট অপসারণ আন্দোলন – এক বৃহত্তর পরিকল্পনার সূচনাপর্ব

শাশ্বত বন্দ্যোপাধ্যায়
গবেষক

সুভাষচন্দ্র তাঁর স্বল্পস্থায়ী রাজনৈতিক জীবনে ইংরেজ শাসনের বিরুদ্ধে নানা আন্দোলনের নেতৃত্ব দিয়েছিলেন। এবং তার জন্য বারবার তাঁকে রাজ অতিথি হিসেবে জেলেও যেতে হয়েছিল। (মোট এগার বার)। কিন্তু এ সকল আন্দোলনের মধ্যে ১৯৪০–এর মধ্যভাগে তিনি যে 'হলওয়েল মনুমেন্ট অপসারণ আন্দোলন' শুরু করেছিলেন তা বিশেষ উল্লেখযোগ্য। এই আন্দোলন ছিল স্বদেশভূমিতে ইংরেজ শাসনের বিরুদ্ধে তাঁর শেষ আন্দোলন এবং ঘটনাক্রমে এই আন্দোলনের জন্য তাঁকে যে কারাবাস করতে হয়েছিল, সেটাই ছিল ইংরেজ শাসনাধীনে তাঁর শেষ কারাবাস।

যে পটভূমি সামনে রেখে সুভাষচন্দ্র এই 'হলওয়েল মনুমেন্ট অপসারণ আন্দোলন' শুরু করেছিলেন তা আজ জনমানসে অনেকটাই অবলুপ্ত। স্বাধীনতা সংগ্রামের সেই বিস্মৃতপ্রায় অধ্যায়কে তুলে ধরার জন্যই এই প্রবন্ধের অবতারণা।

১৯৩৯ সালে দ্বিতীয় বিশ্বযুদ্ধ শুরু হলে সুভাষচন্দ্র মনে করেছিলেন ব্রিটিশ শাসনের বিরুদ্ধে চূড়ান্ত স্বাধীনতা সংগ্রাম শুরু করার এটাই প্রকৃষ্ট সময়। গান্ধী পরিচালিত ব্রিটিশ বিরোধী আন্দোলনে তাঁর কোনদিনই আস্থা ছিল না। ১৯৩৮ এ 'হরিপুরা কংগ্রেসে' তিনি সভাপতি হিসাবে যে ভাষণ দিয়েছিলেন তার প্রতিটি ছত্রে ছিল ব্রিটিশদের বিরুদ্ধে সংগ্রামের ডাক। ইওরোপের সেই সময়কার রাজনীতির গতি–প্রকৃতি সম্বন্ধে তিনি সবিশেষ ওয়াকিবহাল ছিলেন। ইওরোপের যে একটা রাজনৈতিক ঘূর্ণাবর্ত তৈরি হতে চলেছে, বিশ্ব রাজনীতির এক মনোযোগী ছাত্র হিসাবে তিনি তা লক্ষ্য করেছিলেন এবং এই সুযোগে ভারতের স্বাধীনতা সংগ্রাম কিভাবে ত্বরান্বিত করা যেতে পারে তাঁর একটা রূপরেখাও তিনি তাঁর ভাষণে তুলে ধরেছিলেন যা গান্ধী ও তাঁর একান্ত অনুগামীদের পছন্দ হয়নি। এমনকি ১৯২৮এ পার্ক সার্কাসে মতিলাল নেহেরুর সভাপতিত্বে যে কংগ্রেস অধিবেশন হয়েছিল যা গান্ধীর ভাষায় 'পার্ক সার্কাসের সার্কাস', সেখানেও তিনি তাঁর বক্তৃতায় উল্লেখ করেছিলেন যে ইওরোপের বিভিন্ন দেশের মধ্যে পারস্পরিক স্বার্থের দ্বন্দ্বে আর একটা বিশ্বযুদ্ধ আসন্ন। তাই ভারতের (কংগ্রেসের) আগেকার মানসিকতার পরিবর্তন করে পূর্ণ স্বাধীনতা চাওয়া উচিত। কংগ্রেসের তদানীন্তন নেতৃত্ব অবশ্য তখনই এত বৈপ্লবিক পথে অগ্রসর হতে প্রস্তুত ছিল না। প্রসঙ্গত উল্লেখযোগ্য যে কংগ্রেসের প্রবীণ নেতৃত্বের সামনে সুভাষচন্দ্র যখন এই বক্তব্য রাখছেন তখন তাঁর বয়স মাত্র ৩১।

'হরিপুরা কংগ্রেসে' গান্ধীর মত ও পথের সাথে সুভাষচন্দ্রের চিন্তার ফারাক আরও বিস্তৃত হয় ১৯৩৯ এ 'ত্রিপুরী কংগ্রেসে' দ্বিতীয়বার সভাপতি হিসাবে তাঁর নির্বাচনের মধ্য দিয়ে। গণতান্ত্রিক উপায়ে নির্বাচিত হয়েও মূলত গান্ধীর অসহযোগিতায় ও অনমনীয়তায় তিনি কংগ্রেস সভাপতির পদ থেকে ইস্তফা দিতে বাধ্য হন। পরবর্তীকালে কংগ্রেস দলের শৃঙ্খলা ভঙ্গের দায়ে তাকে তিন বছরের জন্য 'সাসপেন্ড'ও হতে হয় এবং এর সমস্তটাই ঘটে গান্ধীর প্রত্যক্ষ মদতে। সুভাষচন্দ্রের বিরুদ্ধে গান্ধীর এই ভূমিকা

এক ঐতিহাসিকের দৃষ্টিতে এইভাবে প্রতিভাত হয়েছিল। "It was non-violent liquidation at its smoothest" (*Freedom's Quest*, N. G. Jog, p. 166). বাধ্য হয়ে ১৯৩৯–এর মে মাসে সুভাষচন্দ্র কংগ্রেসের মধ্যেই 'ফরোয়ার্ড ব্লক' নামে এক নতুন দল গঠন করে ব্রিটিশ রাজত্বের অবসানের জন্য সমস্ত ভারতবাসীর কাছে আবেদন জানান। সুভাষচন্দ্রের ভাষায় এই ফরোয়ার্ড ব্লক হল 'যুগধর্মের প্রকাশ'।

সুভাষচন্দ্র ভারতের রাজনৈতিক চরিত্র পর্যালোচনা করে বুঝেছিলেন যে মুসলমানদের দূরে সরিয়ে কোন ইংরেজ বিরোধী আন্দোলন সফল করা যাবে না। তাই এই সময় ইংরেজদের বিরুদ্ধে হিন্দু ও মুসলমানদের এক সাথে নিয়ে এক ঐক্যবদ্ধ আন্দোলনের কথা ভেবেছিলেন যেমনটি তাঁর রাজনৈতিক গুরু দেশবন্ধুও ভেবেছিলেন ১৯২৩-এ যার ফলে বাংলার হিন্দু–মুসলমানদের মধ্যে পারস্পরিক সহযোগিতা ও সহমর্মিতার ভিত্তিতে এক চুক্তি সম্পাদিত হয় যা 'Bengal Pact' নামে পরিচিত। এই দৃষ্টান্ত সামনে রেখে হিন্দু–মুসলমান সবাইকে এক ছাতার তলায় এনে এক ঐক্যবদ্ধ আন্দোলন শুরু করার জন্য ১৯৪০এ কলকাতা পুরসভার নির্বাচনকে কেন্দ্র করে সুভাষচন্দ্রের নেতৃত্বে ফরোয়ার্ড ব্লকের সাথে মুসলিম লীগের এক চুক্তি হয়, যা 'Corporation Pact' নামে পরিচিত। এই চুক্তির রূপকার হিসাবে এবং সাম্প্রদায়িক শক্তির সাথে হাত মেলানোর দায়ে সুভাষচন্দ্রকে নানা বিরূপ সমালোচনার মুখে পড়তে হয়। কিন্তু প্রতিবাদী সমালোচনাকে আমল না দিয়ে তিনি চুক্তির সমর্থনে বলেন – "সাম্প্রদায়িক শক্তি মানেই অস্পৃশ্য নয়।" মুসলমানদের সাথে সমঝোতার প্রয়োজনীয়তা ব্যাখ্যা করে তিনি লেখেন – "We regard the present agreement with the Muslim League as a great achievement, not in its actuality but in its potentiality." (*Crossroads*, Subhas Chandra Bose, p. 310). এই চুক্তির ফলে এ. আর. সিদ্দিকি কলকাতা পুরসভার মেয়র হন এবং অল্ডারম্যান হন সুভাষচন্দ্র।

কংগ্রেস এ সময় ইংরেজবিরোধী আন্দোলনে নীরব ও নিস্পৃহ থাকায় সুভাষচন্দ্র ইংরেজদের বিরুদ্ধে এক নতুন আন্দোলন গড়ে তোলেন যার অভিমুখ হিসাবে নির্বাচিত হয় কলকাতার ব্যস্ততম ডালহৌসী অঞ্চল। শহরের প্রাণকেন্দ্র ডালহৌসী স্কোয়ারে (বর্তমানে বিনয়–বাদল–দীনেশ বাগ) ইংরেজরা মুসলিম অমানবিকতার প্রতীক স্বরূপ যে 'হলওয়েল মনুমেন্ট' প্রতিষ্ঠা করেছিল তা নিশ্চিহ্ন করার জন্য সুভাষচন্দ্র হিন্দু–মুসলমানদের কাছে একযোগে আহ্বান জানান। ঢাকায় ফরোয়ার্ড ব্লকের প্রাদেশিক সম্মেলনে (মে, ১৯৪০) 'হলওয়েল মনুমেন্ট' উৎখাত করার প্রস্তাব নেওয়া হয় এবং সেই প্রস্তাবকে বাস্তব রূপ দেবার জন্য সুভাষচন্দ্র সচেষ্ট হন।

সুভাষচন্দ্র জানতেন যে মুসলমানরা তাদের উপর এই মিথ্যা কলঙ্কের স্মৃতিস্তম্ভ অপসারণের জন্য ব্যগ্র। বিশেষ করে মুসলমান ছাত্র সমাজ এই স্মৃতিস্তম্ভ অপসারণের জন্য মুখর ছিল, কিন্তু অভাব ছিল যোগ্য নেতৃত্বের। সুভাষচন্দ্র এবার সেই নেতৃত্ব দানে এগিয়ে এলেন এবং তাঁর উদাত্ত আহ্বানে হিন্দু–মুসলমান একজোট হল এক বৃহত্তর আন্দোলন শুরু করার জন্য। মহিলা স্বেচ্ছাসেবীরাও এই আন্দোলনে ব্যাপক ভাবে যোগ দিয়েছিলেন। হিন্দুরা এই আন্দোলনে সামিল হলেও মুসলমান ছাত্ররা এই আন্দোলনে এক অগ্রণী ভূমিকা নিয়েছিল। তারা দলে দলে 'হলওয়েল মনুমেন্ট' যাতে শহরের বুকে না থাকে তার জন্য আন্দোলনে যোগ দেয় এবং নৃশংস পুলিশ অত্যাচারের শিকার হয়। আন্দোলনে তাদের এই গৌরবোজ্জ্বল অবদান বাংলা বিধানসভাতেও আলোচিত হয়। হিন্দু–মুসলমান সদস্য মিলিত ভাবে ছাত্রদের উপর পুলিশি অত্যাচারের তীব্র নিন্দা করেন যা সরকার পক্ষকেও যথেষ্ট প্রভাবিত করেছিল। (সূত্র : *Bengal Legislative Assembly Proceedings*, 15-18 July, 1940).

এই প্রসঙ্গে 'হলওয়েল মনুমেন্ট' কি কারণে

তৈরি করা হয়েছিল এবং তা সবার দৃষ্টি আকর্ষণ করার জন্য কেন কলকাতা শহরের ডালহৌসী স্কোয়ারের মত অঞ্চলে প্রতিষ্ঠা করা হয়েছিল তার প্রেক্ষাপট আমাদের জানা প্রয়োজন। এর জন্য আমাদের প্রায় ২৬৭ বছর আগের ইতিহাসে ফিরে যেতে হবে।

পলাশীর যুদ্ধের আগে থেকেই ইংরেজরা বাংলায় বাণিজ্য বৃদ্ধির সাথে সাথে তাদের সামরিক শক্তিও বৃদ্ধি করতে থাকে। বাংলার তরুণ নবাব সিরাজদ্দৌলার কাছে এ খবর অজানা ছিল না। ইংরাজদের উদ্ধত ও উন্নাসিক আচরণে নবাব যথেষ্টই বিক্ষুব্ধ ছিলেন। নবাব-বিরোধী শক্তির সাথে ইংরেজদের গোপন যোগাযোগ ইংরেজদের প্রকৃত অভিপ্রায় সম্বন্ধে নবাবকে সন্দিহান করে তুলেছিল। নবাবের কাছে ইংরেজরা ছিল শুধুমাত্র ব্যবসায়ী সম্প্রদায় নয়, বরং এক প্রতিস্পর্ধী রাজনৈতিক শক্তি। এই শক্তিকে অঙ্কুরেই বিনষ্ট করার জন্য সিরাজদ্দৌলা ১৭৫৬-র ৫ই জুন ইংরেজদের কাশিমবাজার কুঠি অধিকার করে ইংরেজদের মূল কেন্দ্রীভূত শক্তি কলকাতা আক্রমণের উদ্দেশ্যে রওনা হন।

ইংরেজদের সাথে নবাবের প্রথম সংঘর্ষ বাধে ১৬ই জুন। যুদ্ধের প্রথম অবস্থায় ইংরেজরা জিতলেও, যুদ্ধ কিছুটা এগোলে ইংরেজরা নবাবের সৈন্যদলের আক্রমণের সামনে পিছু হঠতে থাকে। অবস্থা বেগতিক বুঝে ইংরেজ অধিকর্তা ড্রেক ও সেনাপতি মিনসিন সকলের অজ্ঞাতসারে পালিয়ে যান। তখন কাউন্সিল সদস্য হলওয়েল যুদ্ধের দায়িত্বভার গ্রহণ করেন। তিনি ফোর্ট উইলিয়ামে ঘাঁটি গেড়ে যুদ্ধ চালিয়ে যাবার চেষ্টা করলেও যুদ্ধের গতি-প্রকৃতি আন্দাজ করে ২০শে জুন, অপরাহ্নে দুর্গে থাকা সঙ্গী-সাথীসহ নবাবের কাছে আত্মসমর্পণ করেন।

হলওয়েল-সহ সব বন্দিদের ১৮ ফুট লম্বা ও ১৪ ফুট ১০ ইঞ্চি চওড়া এক গারদ ঘরে রাখা হয়। পরদিন সকালে (২১শে জুন) দেখা যায় যে বন্দিদের মধ্যে ৩০ জন মারা গেছে। (সূত্র : *পলাশীর যুদ্ধ*, তপনমোহন চট্টোপাধ্যায়, পৃ. ১১৭)। এই ঘটনা বা দুর্ঘটনা হল পরবর্তীকালে ইংরেজ প্রচারিত 'অন্ধকূপ হত্যা' বা 'Black Hole Tragedy'. হলওয়েল এই ঘটনাকে উপজীব্য করে এক মিথ্যে কাহিনি প্রচার করেন যে ঐ ছোট্ট গারদ ঘরে ১৪৬ জন বন্দিকে গাদাগাদি রাখার ফলে ১২৩ জন বন্দিই জুন মাসের দুঃসহ গরমে জল-বাতাস কিছু না পেয়ে চূড়ান্ত শ্বাসকষ্টে প্রাণত্যাগ করতে বাধ্য হয়। ওই শোচনীয় ঘটনার জন্য হলওয়েল নবাবকেই দায়ী করেন।

হলওয়েল প্রচারিত এই 'অন্ধকূপ হত্যা' পল্লবিত আকারে ইংলন্ডে ছড়িয়ে পড়ে এবং নবাবের বিরুদ্ধে ইংরেজ জনমানসে এক তীব্র বিদ্বেষের সৃষ্টি হয়। মুসলমান অমানবিকতার প্রতীক এই অন্ধকূপ হত্যার গল্পটিকে চিরস্মরণীয় করে রাখার জন্য হলওয়েল নিজের খরচে এক স্মৃতিস্তম্ভ তৈরি করে এর নাম দেন 'Black Hole Monument'। ১৭৬০এ, ক্লাইভের পর গভর্নর হয়ে হলওয়েল বর্তমান মহাকরণের পশ্চিম দিকে এই স্মৃতিস্তম্ভটি স্থাপন করেছিলেন। ১৮২১এ গভর্নর-জেনারেল লর্ড হেস্টিংস মিথ্যে ঘটনার প্রতীক এই স্মৃতিস্তম্ভ সরিয়ে দিলেও, ১৯০২এ, লর্ড কার্জন মুসলমান তথা আপামর ভারতীয়দের হেয় করার মন্দ অভিপ্রায়ে এক নতুন স্মৃতিস্তম্ভ তৈরি করে আগের জায়গায় স্থাপন করে এর নাম দেন 'হলওয়েল মনুমেন্ট'। (সূত্র : *তদেব*, পৃ. ১১৮) ঐতিহাসিকরা অবশ্য হলওয়েলের কাহিনিকে অসত্য বলে খারিজ করে দিয়েছেন। তাঁদের মতে ১৮´×১৪´.১০´´ পরিমাপ বিশিষ্ট ঘরে কোন অবস্থাতেই ১৪৬ জন বন্দির স্থান সঙ্কুলান হতে পারে না। ডঃ ভোলানাথ চন্দ্রের কথায় – "Geometry contradicting, arithmetic gives a lie to the story" (সূত্র: *সিরাজদ্দৌলা*, অক্ষয় কুমার মৈত্রেয়, পৃ. ১৮৬)। ঐতিহাসিক জে. এইচ. লিটল এর মতে হলওয়েল কাহিনি হল একটা 'gigantic hoax'. (সূত্র : *তদেব*, পৃ. ১৭৪)।

দ্বিতীয়ত, ঐতিহাসিকগণ সকলেই একমত যে হলওয়েল ১২৩ জন মৃত বন্দির যে তালিকা লিপিবদ্ধ করেছিলেন, তার মধ্যে অনেকে আগেই

মারা গেছিলেন এবং কিছু ব্যক্তি এই ঘটনার পরেও জীবিত ছিলেন।

তৃতীয়ত, সমকালীন কোন ঐতিহাসিক গ্রন্থে (যেমন – *মুতাক্ষরীণ*) বা ইংরেজদের রোজনামচা বা 'প্রসিডিংস' এ এই ঘটনার কোন উল্লেখ পাওয়া যায় না।

সুতরাং 'অন্ধকূপ হত্যা' কল্প–কাহিনি সমস্তটাই হলওয়েলের মস্তিষ্কপ্রসূত এ সম্বন্ধে কোন সন্দেহ নেই।

ঐতিহাসিকরা অবশ্য এক বিষয়ে একমত যে ২০শে জুন রাত্রে কিছু বন্দি সত্যই মারা গেছিল। তবে তা কখনই হলওয়েল বর্ণিত ১২৩ জন নয় এবং নবাব বন্দিদের মৃত্যুর ঘটনা সম্বন্ধে কিছুই জানতেন না। বরং পরের দিন (২১শে জুন) এ ঘটনা জানতে পেরে নবাব দুঃখ প্রকাশও করেছিলেন। নবাবের চরিত্রে মিথ্যে কলঙ্ক আরোপ করার জন্যই এই কল্প–কাহিনির সৃষ্টি।

এই ঐতিহাসিক প্রেক্ষাপট সামনে রেখে ১৯৪০এ সুভাষচন্দ্র 'হলওয়েল মনুমেন্ট অপসারণ' আন্দোলন শুরু করেন। ১৯৪০–এর ২৯শে জুন ফরোয়ার্ড ব্লক পত্রিকায় তিনি লেখেন যে হলওয়েল মনুমেন্ট ১৫০ বছর ধরে শহরের প্রাণকেন্দ্রে দাঁড়িয়ে আছে – "... as a symbol of our slavery and humiliation. That monument must go." তিনি ঘোষণা করেন যে ৩রা জুলাই বাংলার শেষ স্বাধীন নবাব সিরাজদ্দৌলার স্মরণে 'সিরাজদ্দৌলা দিবস' হিসাবে পালিত হবে। সেইদিনই (০৩.০৭.১৯৪০) 'হলওয়েল মনুমেন্ট অপসারণ' সত্যাগ্রহ শুরু হবে এবং তিনিই প্রথমদিনের আন্দোলনের নেতৃত্ব দেবেন। (সূত্র: *Crossroads*, Subhas Chandra Bose, p. 344). ২৯শে জুন অ্যালবার্ট হলে এক বিশাল জমায়েতে সুভাষচন্দ্রকে 'হলওয়েল মনুমেন্ট অপসারণ' করার ডাক দেন।

সুভাষচন্দ্রের এই ঘোষণায় হিন্দু–মুসলমান একযোগে সাড়া দেয়। মুসলমানদের উচ্চ–নেতৃবর্গ হলওয়েল মনুমেন্ট অপসারণে রাজি থাকলেও তাঁরা কোন সদর্থক পদক্ষেপ গ্রহণে দ্বিধান্বিত ছিলেন। তাঁদের এই ঔদাসিন্য ও দোদুল্যমানতা মুসলমান ছাত্র সমাজকে যথেষ্ট বিক্ষুব্ধ করে তুলেছিল। তাই সুভাষচন্দ্র যখন 'হলওয়েল মনুমেন্ট অপসারণ'–এর জন্য সত্যাগ্রহ আন্দোলন শুরুর করার আহ্বান জানান, তখন মুসলমান ছাত্র সমাজ কোনও দ্বিধা না করে সুভাষচন্দ্রের নেতৃত্বে 'হলওয়েল মনুমেন্ট অপসারণ' আন্দোলন সফল করার জন্য ঝাঁপিয়ে পড়ে। ১লা জুলাই, অ্যালবার্ট হলে সারা বাংলা মুসলমান ছাত্র লীগ ঘোষণা করে যে বাংলার সমস্ত মুসলমান ছাত্র সমাজ 'হলওয়েল মনুমেন্ট অপসারণ' আন্দোলনে একযোগে সামিল হবে।

ইংরেজ সরকার অবশ্য নিশ্চেষ্ট ছিলেন না। সত্যাগ্রহ আন্দোলন শুরু করার আগেই ২রা জুলাই অপরাহ্নে সুভাষচন্দ্রকে ভারতরক্ষা আইনে গ্রেফতার করে প্রেসিডেন্সী জেলে বন্দি করে রাখে, কারণ সুভাষচন্দ্র হলেন – "...the most prominent and noisiest agitator on the Bengal scene, the most threatening to the forces of law and order." (সূত্র : *Brothers Against the Raj*, Leonard A. Gordon, p. 413).

প্রসঙ্গত উল্লেখ্য ২রা জুলাই গ্রেফতার হবার কিছুক্ষণ আগেই সুভাষচন্দ্র জোড়াসাঁকোতে রবীন্দ্রনাথের সাথে দেখা করতে গেছিলেন। সেখান থেকে বাড়ি ফিরতেই কোন কারণ না দর্শিয়ে তাঁকে গ্রেফতার করে বিনা বিচারে প্রেসিডেন্সী জেলে আটক করে রাখা হয়। এটাই ছিল রবীন্দ্রনাথের সাথে তাঁর শেষ সাক্ষাৎকার যার সূচনা হয়েছিল ১৯১৪তে বোলপুরে রবীন্দ্রনাথের সাথে প্রথম সাক্ষাৎকারের মধ্য দিয়ে। তখন তাঁর বয়স ছিল মাত্র ১৭। অন্যদিকে, ইংরেজ শাসনাধীনে এটাই ছিল তাঁর শেষ গ্রেফতার ও কারাবাস।

সুভাষচন্দ্রের এই হঠাৎ গ্রেফতার সারা দেশে এক তীব্র আলোড়ন সৃষ্টি করে। বোম্বে কর্পোরেশন সুভাষচন্দ্রের গ্রেফতারের প্রতিবাদে তাদের পুর অধিবেশন স্থগিত রাখে। কলকাতার পুরসভার অধিবেশন ০৩. ০৭. ১৯৪০এ বাতিল করা হয়।

সুভাষচন্দ্রের গ্রেফতারের জন্য বাংলা সরকারকে সমালোচনা করে মেয়র এ. আর. সিদ্দিকি বলেন – সুভাষচন্দ্রের গ্রেফতার তাঁদের মনে অস্বস্তিকর ধাক্কা দিয়েছে। সর্বভারতীয় মুসলীম লীগের কেন্দ্রীয় কমিটির সদস্য ও কোষাধ্যক্ষ মহম্মদ আমীর আহমেদ খান নৈনিতালের এক সভায় সুভাষচন্দ্রের গ্রেফতারের নিন্দা করেন। বাংলা সরকারের এই কাজকে তিনি দুর্ভাগ্যজনক বলে আখ্যা দেন। ব্রিটিশ পার্লামেন্টেও সুভাষচন্দ্রের গ্রেফতার নিয়ে আলোচনা হয়। হাউস অফ্ কমন্সে ভারতসচিব জানান যে 'হলওয়েল মনুমেন্ট অপসারণ' আন্দোলনে নেতৃত্ব দেওয়ার জন্য সুভাষচন্দ্রকে গ্রেফতার করা হয়েছে। কিন্তু সবচেয়ে লক্ষণীয় বিষয় হল কংগ্রেস দল বা গান্ধী – কেউই সুভাষচন্দ্রের গ্রেফতারের বিরুদ্ধে কোন বক্তব্য রাখেননি। গান্ধী তাঁর *হরিজন* পত্রিকায় প্রকারান্তরে সুভাষচন্দ্রের নেতৃত্বে 'সত্যাগ্রহ আন্দোলনে'র বিরূপ সমালোচনাই করেছিলেন। (সূত্র: *In Freedom's Quest*, N. G. Jog, p. 185).

বাংলা বিধানসভার অভ্যন্তরে সুভাষচন্দ্রের গ্রেফতারের যৌক্তিকতা নিয়ে সরকারপক্ষ ও বিরোধীদের মধ্যে তীব্র বাদানুবাদ চলে। ১৫.০৭.১৯৪০ এ বিধানসভার সদস্য সন্তোষকুমার বসু বিধানসভার অধিবেশনে সুভাষচন্দ্রের গ্রেফতারের প্রতিবাদে অনাস্থা প্রস্তাব পেশ করলে অনেক হিন্দু–মুসলমান সদস্য মিলিত ভাবে এ প্রস্তাব সমর্থন করেন। মুসলমান সদস্য যেমন এ. এম. এ. জামান, মৌলভী আবদুল ওয়াহেদ, আবুল হাসিম, নৌসের আলি 'হলওয়েল মনুমেন্ট অপসারণ'–এর দাবি জানান এবং সুভাষচন্দ্রের গ্রেফতারের নিন্দা করেন। এ. এম. এ. জামান বিতর্কে অংশগ্রহণ করে 'হলওয়েল মনুমেন্ট অপসারণ'–এর সাথে সাথে এই মনুমেন্ট ভেঙে ফেলারও দাবি জানান। আবুল হাসিম ও অন্যান্য মুসলমান সদস্যরা হলওয়েল রচিত 'অন্ধকূপ হত্যা'–র কাহিনিকে মিথ্যা বলে অভিহিত করে বলেন ঐতিহাসিক প্রয়োজনেই 'হলওয়েল মনুমেন্টে'র অপসারণ প্রয়োজন। আবুল হাসিম 'হলওয়েল মনুমেন্ট'কে 'Movement of Lie' বলে অভিহিত করেন। নৌসের আলি বলেন 'হলওয়েল মনুমেন্ট' আগেই অপসারিত হওয়া উচিত ছিল। এটা জাতির পক্ষে একটা স্থায়ী কলঙ্ক।

সুরেন্দ্রনাথ বিশ্বাস, হরেন্দ্রনাথ চৌধুরী, ডা: নলিনাক্ষ সান্যাল, নীহারেন্দু দত্ত মজুমদার, শরৎচন্দ্র বোস প্রমুখ হিন্দু সদস্যরা বিতর্কে অংশগ্রহণ করে সন্তোষ কুমার বসু আনীত অনাস্থা প্রস্তাব সমর্থন করে বক্তব্য রাখেন। হরেন্দ্রনাথ চৌধুরী হলওয়েল রচিত গল্পকে ঐতিহাসিক ভাবে অসত্য বলে অভিহিত করে মিথ্যার প্রতীক 'হলওয়েল মনুমেন্ট অপসারণ'–এর যৌক্তিকতা ব্যাখ্যা করেন।

ইওরোপীয় সদস্য C. W. Miles অপরপক্ষে সুভাষচন্দ্রের গ্রেফতার যথার্থ বলে বিবৃতি দেন। 'হলওয়েল মনুমেন্ট অপসারণ'–এর বিরুদ্ধে ইওরোপীয় সদস্যদের বক্তব্য ছিল এই মনুমেন্ট ধ্বংস না করে অপসারিত করা যেতে পারে। (Removal not Demolition)।

স্বরাষ্ট্রমন্ত্রী খাজা নিজামুদ্দিন সরকার পক্ষ থেকে সভাকে জানান যে 'হলওয়েল মনুমেন্ট অপসারণ'কে সামনে রেখে সুভাষচন্দ্রের নেতৃত্বে যে 'সত্যাগ্রহ আন্দোলন' চলছে তা বিপথগামী। সারা রাজ্যে নৈরাজ্য সৃষ্টি করাই এই আন্দোলনের মূল উদ্দেশ্য। মুখ্যমন্ত্রী ফজলুল হক একই সুরে বলেন 'সত্যাগ্রহ আন্দোলন' প্রত্যাহৃত না হলে সরকার হলওয়েল মনুমেন্ট অপসারণের ব্যাপারে কোন সিদ্ধান্ত নিতে অপারগ। সুভাষচন্দ্রের গ্রেফতারের সমর্থনে তিনি বলেন বর্তমান অবস্থার পরিপ্রেক্ষিতে সরকারের কাছে এ ছাড়া কোন বিকল্প পথ ছিল না।

মুখ্যমন্ত্রীর বক্তব্যকে সমর্থন করে আবুল হাসিম বলেন, সুভাষচন্দ্র কংগ্রেস থেকে বিতাড়িত হয়ে নিজের রাজনৈতিক ক্ষমতা প্রদর্শনের জন্যই এই 'সত্যাগ্রহ আন্দোলন' শুরু করেছেন। সরকার যখন বিগত বিধানসভার অধিবেশনে (মে, ১৯৪০)

সিদ্ধান্ত নিয়েছিল যে ৬ মাসের মধ্যে 'হলওয়েল মনুমেন্ট' অপসারিত হবে, তখন ৬ মাস শেষ হবার আগে 'সত্যাগ্রহ আন্দোলনে'র কোন যৌক্তিকতা নেই। তির্যক মন্তব্য করে তিনি বলেন 'হলওয়েল মনুমেন্ট অপসারণ' আন্দোলনকে সুভাষচন্দ্র 'স্প্রিং বোর্ড' হিসাবে ব্যবহার করে নিজের জনপ্রিয়তা অর্জনের প্রয়াস করছেন। আবুল হাসিম অবশ্য হলওয়েল মনুমেন্ট অপসারণের পক্ষেই ছিল। (সূত্র : *Bengal Legislative Assembly Proceedings*, 15th July, 1940)। সন্তোষ কুমার বসুর অনাস্থা প্রস্তাব শেষ পর্যন্ত ১১৯–৭৮ ভোটের ব্যবধানে খারিজ হয়ে যায়। (সূত্র : *B.L.A. Proceedings*, 15th July, 1940, p. 92)।

সুভাষচন্দ্রের গ্রেফতারে অবশ্য সত্যাগ্রহ আন্দোলনে কোন ছেদ পড়েনি। বরং উত্তরোত্তর তা বৃদ্ধি পেতে থাকে। মুসলমান ছাত্ররা মুখ্যমন্ত্রীর বাসভবনের সামনে আন্দোলন শুরু করে এবং মুখ্যমন্ত্রীর কাছে দাবি জানায় যে তাঁকে অবিলম্বে 'হলওয়েল মনুমেন্ট অপসারণ'–এর প্রতিশ্রুতি দিতে হবে। এই জমায়েতে হিন্দু ছাত্ররাও যোগ দিয়েছিল। যদিও তাদের সংখ্যা ছিল তুলনামূলক ভাবে কম।

ছাত্র আন্দোলনের চরম পরিণতি ঘটে ইসলামিয়া কলেজে আন্দোলনরত ছাত্রদের উপর নৃশংস পুলিসী অত্যাচারে। অসংখ্য ছাত্র গুরুতর ভাবে আহত হয় যা আন্দোলনের মাত্রা আরও তীব্র করে তোলে। আন্দোলনের তীব্রতা সরকারকে বাধ্য করে তার পূর্ণ সিদ্ধান্ত থেকে সরে আসতে। বিক্ষুব্ধ ছাত্রদের বিক্ষোভকে প্রশমিত করতে মুখ্যমন্ত্রী ইসলামিয়া কলেজে নিজে এসে ছাত্রদের সাথে দেখা করেন। আন্দোলনের গুরুত্ব অনুধাবন করে ২৮.০৭.১৯৪০–এ মুখ্যমন্ত্রী বিধানসভায় বিবৃতি দিয়ে জানান যে 'হলওয়েল মনুমেন্ট' অপসারিত করা হবে এবং তা অপসারিত হয়। অপসারিত হবার পর 'হলওয়েল মনুমেন্ট'–এর স্থান হয় সেন্ট জন চার্চের প্রাঙ্গণ। আন্দোলনের ফলে 'হলওয়েল মনুমেন্ট' অপসারিত হলে 'সত্যাগ্রহ আন্দোলন' শেষ হয় এবং হিন্দু–মুসলমানের মুখপাত্র হিসাবে শরৎচন্দ্র আনুষ্ঠানিক ভাবে 'সত্যাগ্রহ আন্দোলন' প্রত্যাহার ঘোষণা করেন।

আন্দোলন প্রত্যাহৃত হলে যে সব বন্দিকে বিনা বিচারে আটক করা হয়েছিল তাঁরা প্রত্যেকেই মুক্তি পান শুধু সুভাষচন্দ্র ও নরেন্দ্রনারায়ণ চক্রবর্তীকে মুক্তি দেওয়া হয় না। কারণ ইংরেজ সরকার মনে করত, সুভাষচন্দ্রের যা জনপ্রিয়তা তাতে তিনি একক ক্ষমতায় ইংরেজ বিরোধী আন্দোলন পরিচালনা করার ক্ষমতা রাখেন। *আনন্দবাজার পত্রিকা*–র কথায় – "সুভাষচন্দ্র (ছিলেন) সরকারের প্রতিদ্বন্দ্বী। তাই সমস্ত রকমের ঝুঁকি এড়াতে তাঁকে কারাগারে বন্দি রাখাই সরকার শ্রেয় বলে মনে করেছিল। সুভাষচন্দ্র অবশ্য বন্দি অবস্থাতেই ঢাকা নির্বাচনী অঞ্চল থেকে কেন্দ্রীয় আইনসভায় বিনা প্রতিদ্বন্দ্বিতায় নির্বাচিত হন। এই সময় ইওরোপে যুদ্ধের গতিপ্রকৃতি বিচার করে সুভাষচন্দ্র স্থির নিশ্চিত ছিলেন যে – (১) ইংরেজরা এই যুদ্ধে পরাজিত হবে, (২) ইংরেজরা যুদ্ধে পর্যুদস্ত হলেও তারা ভারতের হাতে ক্ষমতা হস্তান্তর করবে না, এবং (৩) ভারত স্বাধীন হবে যদি ভারত ইংরেজদের সাথে লড়াই করে এবং ইংরেজ বিরোধী শক্তির সাথে হাত মেলায়। তাই ভারতের উচিত হবে আন্তর্জাতিক রাজনীতিতে সক্রিয় ভাবে যুক্ত হওয়া। (সূত্র : *The Indian Struggle, 1920-42*, Subhas Chandra Bose, p. 386)। ২১.১২.১৯৩৮ এ কংগ্রেসের সভাপতিকালীন গান্ধীকে চিঠি লিখে জানান যে বর্তমান রাজনৈতিক প্রেক্ষাপটে কংগ্রেসের উচিত পূর্ণ স্বাধীনতার দাবি পেশ করা। বর্তমান পরিস্থিতির আবহে ইংরেজরা কংগ্রেসের দাবি হেলায় অগ্রাহ্য করতে পারবে না এবং যদি তারা অগ্রাহ্য করে বা অসন্তোষজনক উত্তর দেয় তাহলে উচিত হবে 'সত্যাগ্রহ আন্দোলন' শুরু করা। পরিস্থিতির চাপে ভারতে তাদের শান্তি বজায় রাখতেই হবে। অতএব ১৯৩৯ এ বৃহৎ 'সত্যাগ্রহ আন্দোলনে'র অনিবার্য ফল হবে কংগ্রেস ও ইংরেজদের মধ্যে শান্তিবৈঠক যার ফলে ভারতের জয় সুনিশ্চিত হবে।

সতত সাবধানী গান্ধী অবশ্য সুভাষচন্দ্রের এই প্রস্তাবে সাড়া দেননি। কারণ তিনি চাননি ইংরেজদের দুর্বলতার সুযোগ নিয়ে তাদেরকে বিপদে ফেলতে। (We do not seek our independence out of Britain's ruin) নেহেরু এই ক্রান্তিকালে ইংরেজদের বিরুদ্ধে যেতে আগ্রহী ছিলেন না। ২০শে মে, ১৯৪০ এ নেহেরু বলেন – "Launching a civil disobedience campaign at a time when Britain is engaged in a life and death struggle would be an act derogatory to India's honour." (সূত্র : *The Indian Struggle*, p. 384-385) নেহেরুর এই মনোভাবের পরিচয় পাওয়া যায় তাঁর লেখা *Discovery of India* বইতেও। তিনি লিখছেন – "There are some people, of course, who thought that England's difficulty and peril were India's opportunity, but the leaders of the congress were definitely opposed to any such advantage being taken of a situation full of disastrous foreboding for England, and declared so publicly. (সূত্র : *Discovery of India*, p. 525-526)।

স্পষ্ট করে কারুর নাম উল্লেখ না করলেও তাঁর সমালোচনার তির ছিল সুভাষচন্দ্রের মত ও পথের বিরুদ্ধে, যিনি মনে করতেন ইংরেজদের বর্তমান দুর্বলতার সুযোগ ভারতের পূর্ণ মাত্রায় গ্রহণ করা উচিত। এইজন্য তিনি সব ইংরেজ বিরোধী শক্তিকেই ভারতের মিত্র বলে মনে করতেন। ('Natural allies of India')।

সুভাষচন্দ্রের মত ইংরেজদের প্রতি গান্ধী ও নেহেরুর মতো ছিল না। তাই তিনি একটা চেষ্টা করছিলেন যাতে যে কোন উপায়ে দেশের বাইরে গিয়ে ইংরেজ বিরোধী বিদেশী শক্তির সহায়তায় ভারতের স্বাধীনতা আন্দোলনকে তীব্রতর করা যায়। তাঁর প্রাথমিক পরিকল্পনা ছিল পাঞ্জাব এবং উত্তর পশ্চিম সীমান্তের সহযোগীদের সাহায্যে সীমান্ত পার হয়ে আফগানিস্তানে প্রবেশ করা এবং সেখান থেকে রাশিয়ায় গিয়ে ভারতের স্বাধীনতার সংগ্রামের জন্য তাদের সাহায্য লাভ করা। এই পরিকল্পনার সফল রূপায়ণের জন্য তিনি 'কীর্তি কিষাণ পার্টি'র উপর নির্ভর করেছিলেন। কিন্তু 'হলওয়েল মনুমেন্ট অপসারণ' আন্দোলনের নেতা হিসাবে ০২.০৭.১৯৪০ এ তাঁকে গ্রেফতার হতে হলে তাঁর পরিকল্পনা সাময়িক একটা ধাক্কা খায়। এ প্রসঙ্গে ভগৎরাম, যাঁর সাহায্যে সুভাষচন্দ্র ১৯৪১ এ ভারত ত্যাগ করে রাশিয়ায় পৌঁছতে সক্ষম হয়েছিলেন, লিখছেন – "Bose was planning to escape from India and this arrest and subsequent imprisonment long delayed this move." (সূত্র : *Brothers against the Raj*, Leonard A Gordon, p. 713)।

সুভাষচন্দ্র এই গ্রেফতারে হতোদ্যম না হয়ে জেল থেকে মুক্ত হবার এক ছক্ কষেন। প্রেসিডেন্সী জেলে তাঁর সহবন্দি নরেন্দ্রনারায়ণ চক্রবর্তীর লেখা থেকে জানা যায় সুভাষচন্দ্র নরেন্দ্রনারায়ণকে বলেছিলেন, জেল থেকে মুক্ত হবার চেষ্টা করে তিনি বিদেশে যাবার চেষ্টা করবেন এবং যদি ব্যর্থ হন, তবে নরেন্দ্রনারায়ণকেই জেল থেকে মুক্তি পাবার পর সুভাষচন্দ্রের প্রতিনিধি হিসাবে বিদেশে যেতে হবে। (সূত্র : *নেতাজী সঙ্গ ও প্রসঙ্গ*, নরেন্দ্রনারায়ণ চক্রবর্তী, ২য় খণ্ড)। জেল থেকে মুক্ত হবার জন্য সুভাষচন্দ্র কেন এত উদগ্রীব ছিলেন তার ব্যাখ্যায় তিনি লিখছেন – "It would be a gross political blunder to remain inactive in prison when history was being made elsewhere." (*The Indian Struggle*, p. 386)। ভারতের রাজনৈতিক অঙ্গনে সক্রিয় ভাবে অংশগ্রহণের উদ্দেশ্যে জেল থেকে মুক্ত হবার জন্য জীবনকে বাজি রেখে তিনি এক বিশেষ পরিকল্পনা গ্রহণ করেন এবং শেষ পর্যন্ত সেই কাজে তিনি সফলও হন।

২৬.১১.১৯৪০ এ বাংলার গভর্নরকে এক দীর্ঘ চিঠি লিখে জানান এই চিঠি তাঁর 'রাজনৈতিক ঘোষণা' মাত্র (Political Testament)। চিঠিতে তাঁর এই গ্রেফতার ও কারাবাস যে অনৈতিক ও অবৈধ তার বিস্তৃত ব্যাখ্যার পাশাপাশি গভর্নরের

কাছে তিনি দুটো অনুরোধ রাখেন। প্রথম অনুরোধে তিনি বলেন, তাঁর এই চিঠি যেন সরকারি মহাফেজখানায় যত্ন সহকারে রাখা হয় যাতে ভবিষ্যৎ প্রজন্ম এটি হাতে পান এবং দ্বিতীয় অনুরোধে তিনি বলেন আগামী ২৯.১১.১৯৪০ এ, জেল থেকে মুক্তির দাবিতে তিনি যে আমরণ অনশন শুরু করতে চলেছেন সরকার যেন জোর করে তাতে কোন হস্তক্ষেপ না করে এবং তিনি যেন শান্তিতে তাঁর অভীষ্ট লক্ষ্যে পৌঁছতে পারেন।

সরকারের কাছে এই দুটি অনুরোধ রাখার সাথে সাথে দেশবাসীর উদ্দেশ্যে একটি বার্তাও তিনি এই চিঠিতে প্রেরণ করেন। দেশবাসীকে মনে করিয়ে দেন দাসত্বের থেকে বড় অভিশাপ আর কিছুতে নেই। অন্যায় ও অবিচারের সাথে আপোস করা ঘৃণ্যতম অপরাধ। তাদেরকে শাশ্বত সত্য মনে রাখতে হবে জীবন পেতে গেলে জীবন দিতে হয় এবং যে কোন মূল্যে অসাম্যের বিরুদ্ধে যুদ্ধ করাই সবচেয়ে বড় পুণ্যকর্ম। (*The Essential Writings*, Subhas Chandra Bose, p. 268)।

পূর্ব ঘোষণা মতো ২৯শে নভেম্বর, ১৯৪০ এ জেল থেকে মুক্তির দাবিতে সুভাষচন্দ্রের আমরণ অনশন শুরু হয়। সরকার অবশ্য প্রাথমিক ভাবে সুভাষচন্দ্রের এই অনশনকে খুবই হাল্কা ভাবে নেয়। সরকার পক্ষ শরৎচন্দ্রের মাধ্যমে তাঁর কাছে অনশন প্রত্যাহারের অনুরোধ জানায় এবং সরকার যে কোন অবস্থাতেই তাঁকে মুক্তি দেবে না তা জানিয়ে দেওয়া হয়।

কিন্তু কিছুদিনের মধ্যেই সরকারের এই অনমনীয় মনোভাবের পরিবর্তন ঘটে। অনশন শুরু করার এক সপ্তাহের মধ্যেই সুভাষচন্দ্রের শরীর ও স্বাস্থ্য মারাত্মক ভাবে কাহিল হয়ে পড়ে। সরকারি ডাক্তারও তাঁর স্বাস্থ্য পরীক্ষা করে গভীর উদ্বেগ প্রকাশ করেন। ০৫.১২.১৯৪০ এ সুভাষচন্দ্র সরকারকে জানান কর্তৃপক্ষ যেন শান্তিতে তাঁকে মরতে দেয়। সুভাষচন্দ্রের স্বাস্থ্যের চরম অবনতি এবং সরকারি ডাক্তারের উদ্বেগজনক বিবৃতিতে সরকার ভীত হয়ে পড়ে। অবাঞ্ছিত ঘটনা এড়াতে সেই দিনই অপরাহ্নে (০৫.১২.১৯৪০) অসুস্থ সুভাষচন্দ্রকে অ্যাম্বুলেন্স করে বাড়ি পাঠিয়ে দেওয়া হয়। জেল থেকে ছেড়ে দিলেও সরকার কিন্তু তাঁর বিরুদ্ধে চালু দুটি মামলা প্রত্যাহার না করে এক বিবৃতিতে জানায়, তিনি বন্দিও নন, জামিনপ্রাপ্তও নন। তাঁকে আবার গ্রেফতার করা হবে। আপাতত তাঁকে বন্দিত্ব থেকে সাময়িক মুক্তি দেওয়া হয়েছে। (সূত্র : *দেশনায়ক*, সুগত বসু, পৃ. ১৮১) কড়া পুলিশ পাহারায় তাঁকে বাড়িতে নজরবন্দি করে রাখার ব্যবস্থা করা হয়। এইভাবে জেল থেকে বাইরে আসার পরিকল্পনার প্রথম ভাগ সম্পন্ন হয় যার অন্তিম পরিসমাপ্তি ঘটে ১৯৪১ এর ১৬–১৭ জানুয়ারীর মধ্যরাত্রে বাড়ি থেকে গোপনে 'মহা নিষ্ক্রমণ'–এর মধ্য দিয়ে।

'হলওয়েল মনুমেন্ট অপসারণ' আন্দোলনে সুভাষচন্দ্রের ভূমিকা নিয়ে একটা প্রশ্ন সতত আলোচিত হয়। এই আন্দোলন কি একটা বিচ্ছিন্ন আন্দোলন ছিল না এই আন্দোলনকে সামনে রেখে সুভাষচন্দ্র ভারতের স্বাধীনতা আন্দোলনের জন্য কোন বৃহৎ পরিকল্পনার কথা ভেবেছিলেন।

আমরা এই প্রশ্নের উত্তর পাবার একটা চেষ্টা করব। সুভাষচন্দ্রের ভ্রাতুষ্পুত্র শিশির কুমার বোস এ ব্যাপারে আলোকপাত করতে গিয়ে তাঁর লেখা *বসুবাড়ী* বইতে লিখছেন – ১৯৪০ এর প্রথমদিক থেকেই সুভাষচন্দ্র গোপনে রাশিয়া যাবার চেষ্টা করছিলেন যাতে ভারতের স্বাধীনতা সংগ্রামে রাশিয়ার সাহায্য পাওয়া যায়। কিন্তু প্রাথমিক ভাবে তাঁর সে চেষ্টা ব্যর্থ হয়। সুভাষচন্দ্রের আর এক ভ্রাতুষ্পুত্র অশোকনাথ বোস তাঁর লেখা *My Uncle Netaji* বইতেও অনুরূপ মত ব্যক্ত করেছেন। তিনি লিখছেন, গোপনে দেশ ছেড়ে বিদেশে যাবার যে পরিকল্পনা সুভাষচন্দ্র করেছিলেন তা ব্যর্থ হবার মূলে ছিল তাঁর কিছু ঘনিষ্ঠ সহযোগীর অবিমৃষ্যকারিতা। তাঁর লেখা থেকে এ তথ্যও জানা যায় যে রাশিয়া যাতে ভারতের স্বাধীনতা সংগ্রামে সাহায্য করে সেইজন্য সুভাষচন্দ্র অশোক–শিশিরের আর এক ভাই অমিয়নাথকে রাশিয়ায় পাঠাতে চেয়েছিলেন। কিন্তু পুলিশী তৎপরতায়

অমিয়নাথের রাশিয়া যাওয়া বাস্তবায়িত হয়নি। (সূত্র : *My Uncle Netaji*, পৃ. ১৮০–১৮৪)।

সুভাষচন্দ্র গোপনে দেশত্যাগ করে ইংরেজ বিরোধী বিদেশি মিত্রের সহযোগিতার জন্য যে নিপুণ পরিকল্পনা করেছিলেন তার এক তথ্যনিষ্ঠ প্রমাণ পাওয়া যায় অশোক বোসের লেখা বইতে। তিনি লিখছেন, সুভাষচন্দ্রের বাঁ কানের নিচে একটা আঁচিল ছিল। ১৯৩৯ এর শেষের দিকে সুভাষচন্দ্র সেই আঁচিলটা অপারেশন করে বাদ দেবার ব্যবস্থা করেন, যাতে তাঁকে সহজে চেনা না যায়। (সূত্র : *তদেব*, পৃ. ১৯৯)।

দেশ থেকে গোপনে অন্তর্ধান করার যে সর্বাত্মক পরিকল্পনা সুভাষচন্দ্র করেছিলেন, তার আলোচনা করতে গিয়ে শিশির কুমার *বসুবাড়ী* বইতে এক সঙ্গত প্রশ্ন তুলে লিখছেন – সুভাষচন্দ্র যখন দেশ থেকে অন্তর্হিত হবার কথা ভাবছেন, তখন তিনি কেন 'হলওয়েল মনুমেন্ট অপসারণ' আন্দোলনের ডাক দিয়ে গ্রেফতারের ঝুঁকি নিলেন। শিশির কুমারের মতে সম্ভাব্য কারণ হল –

(১) 'সত্যাগ্রহ আন্দোলন' ছিল সরকারকে ধোঁকা দেবার এক কৌশল যাতে সরকার মনে করে তিনি যখন সত্যাগ্রহ আন্দোলন নিয়ে এত মাথা ঘামাচ্ছেন, তখন তাঁর কোন বৈপ্লবিক কর্মসূচী নেই।

অথবা

(২) সুভাষচন্দ্র মনে করেছিলেন তিনি আদৌ গ্রেফতার হবেন না। কারণ এই সময় তিনি নানা লেখায়, বক্তৃতায় মিটিং এবং বিভিন্ন রাজনৈতিক সম্মেলনে (ঢাকা, নাগপুর) সরকারের বিরুদ্ধে উত্তেজক বক্তব্য রাখছিলেন যা তাঁর বিরুদ্ধে দমনমূলক ব্যবস্থা গ্রহণ করার পক্ষে যথেষ্ট ছিল। সরকার কিন্তু সেই পথে হাঁটেনি। সরকারের এই আপাত শীতল ব্যবহারে সুভাষচন্দ্রের মনে হয়েছিল বর্তমান পরিস্থিতির চাপে সরকার হয়ত এই মুহূর্তে তাঁকে গ্রেফতার করার ঝুঁকি নেবে না।

সুভাষচন্দ্রকে অবশ্য শেষ পর্যন্ত গ্রেফতার হতেই হয় এবং গ্রেফতার হবার পর নিজস্ব পরিকল্পনা মাফিক তিনি মুক্তও হন। ৫ই ডিসেম্বর, ১৯৪০ এ জেল থেকে সাময়িক মুক্তি পাবার পর দীর্ঘদিনে বাড়িতে অন্তরীন থাকার সুযোগ নিয়ে যে ভাবে উত্তর–পশ্চিম সীমান্তের সহযোগীদের সাহায্যে নানা প্রতিকূলতার মধ্য দিয়ে জার্মানী গিয়ে দেশের স্বাধীনতার জন্য বৈদেশিক সাহায্য লাভ করেছিলেন, তার সূচনা লগ্নে ছিল এই 'হলওয়েল মনুমেন্ট অপসারণ আন্দোলন'।

গঙ্গা জলে গঙ্গা পূজার মত সুভাষচন্দ্রের এক উদ্ধৃতি দিয়ে এই প্রবন্ধ শেষ করা যেতে পারে। সুভাষচন্দ্র বিশ্বাস করতেন – "Great achievements are often born out of small beginnings." তাঁর এই বিশ্বাসের প্রত্যক্ষ প্রমাণ হল, তাঁর নেতৃত্বে শুরু হওয়া 'হলওয়েল মনুমেন্ট অপসারণ' ছোট্টো আন্দোলন, যার (মহা) পরিসমাপ্তি ঘটে বিদেশের মাটিতে 'আজাদ হিন্দ ফৌজ গঠনে'র মধ্য দিয়ে।

তথ্যসূত্র :

১। *সিরাজদ্দৌলা*, অক্ষয় কুমার মৈত্রেয়।
২। *পলাশীর যুদ্ধ*, তপনমোহন চট্টোপাধ্যায়।
৩। *নেতাজী সঙ্গ ও প্রসঙ্গ (১–৩)*, নরেন্দ্রনারায়ণ চক্রবর্তী।
৪। *বসুবাড়ী*, শিশির কুমার বোস।
৫। *বাংলার বিধানসভার একশ বছর – রাজানুগত থেকে গণতন্ত্র*, সত্যব্রত দত্ত।
৬। *দেশনায়ক*, সুগত বসু।
৭। *The Indian Struggle (1920-1942)*, Subhas Chandra Bose
৮। *Crossroads*, Subhas Chandra Bose.
৯। *The Essential Writings of Subhas Chandra Bose*, ed. Sisir Kumar Bose and Sugata Bose.
১০। *Brothers Against the Raj*, Leonard A. Gordon.
১১। *My Uncle Netaji*, Ashok Nath Bose.
১২। *His Majesty's Opponent: Subhas Chandra Bose and India's Struggle against Empire*, Sugata Bose.
১৩। *Bengal Legislalive Assembly Proceedings*, 1940.
১৪। *The Calcutta Municipal Gazette*, Subhas Chandra Bose Birth Centenary Number.
১৫। *Freedom Quest,* N. G. Jog
১৬। *Discovery of India,* Jawaharlal Nehru.

Indian Tribes and their Role in the Ecosystem Conservation*

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Introduction

India is known to the world as a place having diverse language, many minds and various wears, but there is 'unity in diversity'. Traditionally Indian society is said to have three types of communities - tribal, cast and peasant. Tribals are a geographically isolated community, concentrated in areas which have been more or less inaccessible. They have few external ties and speak a variety of dialects which can be shown to differ in various aspects from the major Indian languages. They practise a different set of religious beliefs which do not seem to have their roots in Hinduism. Tribal communities are said to be the most primitive form of social grouping of man. These people are the original inhabitants in a geographical area, so they are regarded as indigenous that is Adivasi and ethnic means a population group or subgroup made up of people who shared a common cultural background or descent. It is recognised that the tribal communities have been indispensable forces in the maintenance of ecosystems through conservation of biodiversity across the world. For centuries, Indian tribes have helped to preserve natural habitats and promote conservation through sustainable practices in farming, fishing, and living spaces with life. Their rituals and beliefs further contribute to environmental protection.

In India, 68 million people belonging to 227 ethnic groups and comprising 573 tribal communities directly derive from 6 racial stocks namely – Negroid, Proto-Australoid, Mongoloid, Mediterranean, West Breathy and Nordic exists in different parts of the country.

India has the second largest tribal population in the world. There are about 8.6% of the total population that is 104 million under 705 ethnic groups as in 2024. The Toto tribal peoples in India are one of the smallest indigenous ethnic groups living in Toto Para at the Indian border with Bhutan. Bhils are considered as one of the oldest tribes in India. Santal tribe is the largest tribal community in West Bengal, inhabiting districts of Bankura, Purulia and Paschim Medinipur.

Conservation of Indian Ecosystem

The myriads of lives found on earth are the outcome of the evolutionary process for the last 3.6 billion years. All life on earth is part of one great, interdependent system - the ecological system. They are continually changing. The change has limits, it is not infinitely expendable. All life forms are to live sustainably within this limit. This sustainable living could only be possible by sustainable development that meets the needs and aspirations of the current generation without compromising the ability to meet those of future generations. The foundation of sustainable development

* On August 9 every year the world celebrates the International Day of the world's indigenous people. The article is written in memory of the day and to pay respect to the tribal people.

is formed by interaction between the living organisms and with the physical environment in ecosystems.

"India is fortunate in the richness of its natural resources……..the abundance and diversity of living resources. Adequately managed, these and other resources can meet high levels of materials needs, now and for all times to come……." (From approach paper to the Seventh Plan).

The World Conservation Strategy for living resource conservation for sustainable development was published in 1980, providing both an intellectual framework and practical guidance for conservation actions. India was actively involved in the exercise and was aimed since then in implementation of conservation strategy with the same basic principles.

Living-resources conservation, admittedly, has three specific objectives…that of, maintenance of essential ecological processes and life support systems, preservation of genetic diversity and ensuring sustainable utilisation of species and ecosystems. The Indian policy, pursued at present, can be projected from the same point of view.

The world's most fundamental capital stock, biodiversity, on which the sustainable living of mankind depends, is under an unprecedented environmental threat. It is being lost as fast in recent times as any time. IUCN reports more than 900 species have gone extinct worldwide in the last 500 years, and more than 10,000 are in danger of extinction.

The indigenous and ethnic people of the world have learnt to live in the most hostile environmental conditions in this universe. The most interesting feature associated with this indigenous and ethnic has been found that they live in localities which are immensely rich in biodiversity. It is estimated that about 300 million indigenous people are living in the world, out of which nearly half that is 100 and 50 million are living in Asia, about 300 million of which are living in Central and South America and a significant number of them living in Australia, Europe, New Zealand, Africa, and erstwhile Soviet Union. A list of some of these prominent ethnic and Indigenous people have played a vital role in conservation of environment and management and development process as they possess traditional knowledge which has been useful in eco-restoration. It has been noticed that these people know how to live with harmony in nature.

These ethnic people, mostly the indigenous tribes live close to the vicinity of the forest and have managed and conserved the biodiversity of their localities for a long time. These tribals take shelter from forest and utilise wild edible plants both raw and cooked.

Indian Floral Diversity and Role of Tribes in Ecosystem Conservation

India is a country with a large ethnic society and has immense wealth due to which it is rich in biodiversity. There are 49,000 species of wild plants out of which more than 9,500 species are ethnobotanically important species. Of these, 7,500 species are in medicinal use for indigenous health practices. About 37,900 plant species are used by tribals as food (out of which 145 species comprise of root and tubers, 521 species of leafy vegetables, 101 species of bulbs and flowers, 647 species of fruits), 525 are used for fibre, 400 species are used as fodder, 300 species are used in preparation and extraction of chemicals which are used as naturally occurring insecticides and pesticides, nearly 300 species are used for extraction of gum, resins, dyes and perfume. In India 11.95% of the world's biodiversity has been conserved by ethnic people in many ways.

Conservation of Plants by Tribals in Natural Habitat

With the magico-religious belief of the tribals, they strongly believe that most plants

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are the habitats of God and Goddess in several parts of the country particularly in Madhya Pradesh and Chhattisgarh and other tribal pockets in Central India, where the tribal culture is prevalent, revealed that tribals worship trees and flowers as the belief that Gods and Goddesses reside in them. A list of such trees and flowers which the tribals considered as the abode of Gods and Goddesses (mentioned in bracket for each plant) are as follows: Amra (Vidhyadhara), Arjun (Brahma), Nibu (Brihaspati), Bei (Shiva), Neem (Serpent King), Tulsi (Lakshmi), Agasti (Narayan), Herabi (Ganesh), Nilpadma (Ambica), Sweta Padma (Shiva).

The tribals realised that successful living requires definite crop plants as a source of food and they started conservation of those crop plants. They have conserved several plants and endangered cultivars of agriculture crops such as rice, maize, millets, grains, legumes, fruits and vegetables which originated under diverse agro-ecological climates in north-east, Central and Peninsular regions of India. Main cultivars are genetically superior to existing cultivated rice varieties in characteristics like aroma, grain quality, protein content, digestibility and also found resistance to insects, pests and diseases.

Ethnic and Indigenous people depend upon several wild species for fruits, seeds, bulbs, roots and tubers which are used for edible purposes.

Many plant species of great economic importance to tribals as rhizomes of such plants like *Acorus calamus*, stem bark, stem and leaves of *Moringa oleifera* are being used as antidote of snake bite and Scorpion sting. These plants are conserved for above purpose by tribals.

Indigenous and ethnic people are dependent on bone fracture treatment and orthopaedic treatment. The tribal herbal healers prepare paste of root, stem and leaves of some plants like *Vanda tessala, Alternanthera sessils* and roots of *Cassia adnata, Sida cordata, Bauhinia purpurea*, etc. are tied for healing of wound for 10-15 days on broken bones. These plants are conserved by tribal herbal healers.

The most important use followed by conservation of many herbs are recognised as the medicinal plants. There are hundreds of such plants.

Sida acuta, *Jatropha curcas* and other deciduous plants are conserved and used in muscular pain, cure of fever, headache and body-swelling.

Conservation of plants which are considered of agricultural importance in abandoned sites of shifting agriculture by tribals.

There are numerous Sacred Groves specially in the tribal dominated villages. These are worshiped and maintained by the indigenous and ethnic people. Otherwise, these flora and fauna might have disappeared from the natural ecosystem. These people play a vital role in preserving biodiversity of several virgin forests and have conserved flora and separate groups of tribals otherwise this flora

and fauna may have disappeared from the natural ecosystem.

The tribal communities often restrict the culling of animals and certain plants only by employing totems and religious beliefs. There are tribes particularly in Arunachal Pradesh, tigers, sparrows and pangolin are believed to be well-wishers of humankind.

Adivasis Integral to Protecting the Forest

Different tribes in many states follow a mixed cropping system, this prevents overexploitation of the water table and soil nutrients.

The fishing practices and methods are somewhat different from others. The tribal communities employ more sustainable techniques for catching fish by using bamboo traps instead of pesticides.

Recognising the importance of the traditional knowledge of the tribal people for conservation, The Biological Diversity Act, 2002 mentioned about the equitable sharing of the benefits arising out of the use and knowledge of biological resources with the local communities. Therefore, all stakeholders should realise that indigenous people's traditional knowledge is a way forward for more effective conservation of biodiversity.

Conclusion

India in the present scenario is rich in biodiversity. The indigenous people have helped in conservation of biodiversity. Tribal peoples are generally regarded as the best environmentalists, as they connect with nature more spiritually. As the indigenous people are integral to conservation as they relate with it in a more integrated and spiritual way, a sense of respect needs to be developed for the indigenous people. However, efforts for conservation have to be made in both vertical as well as horizontal direction due to rapid industrial revolution. Conservation of diversity, sustainable management, propagation of such valued flora and their in-situ as well as ex-situ conservation are the needs of this century. Lastly, it may be said that the cheapest and quickest way to conserve areas of high biodiversity is to respect tribal people's rights.

It is recognised that the tribal communities have been indispensable forces in the maintenance of ecosystems through conservation of biodiversity across the world. For centuries, Indian tribes have helped preserve natural habitats and promote conservation through sustainable practices in farming, fishing, and living spaces with life. Their rituals and beliefs further contribute to environmental protection. However, these communities are often confronted with forced eviction and other threats that affect their livelihood as well as ecosystems they helped preserve for so long.

A Glimpse of Chemistry and Physics in Pre- and Post-Independent India

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As far as we know, the first scientific work produced in India was published from Goa in 1563. The title translated into English is 'Conversation on Indian Plants and Drugs referring to the Medicine of India'. It was written by a Portuguese physician Garcia da Orta. This was followed by another article on medicinal plants by another Portuguese physician Christoval Acosta from Goa in 1582. Subsequently, the Dutch Governor of Malabar published a series of articles again on Indian plants from 1686 to 1703. These were published from Amsterdam. The East India Company, after acquiring trade rights in India from the Mughal emperors, engaged some of its officials in the scientific survey of India to gain a thorough knowledge of the land and its resources. This, of course, was of direct trade interest to these colonialists. At the end of the 18th century, the Company was becoming the ruler of a major part of India and it was very much interested in a thorough exploitation of this vast country with its huge natural bounty. However, there were, among these people, scholars with a genuine interest in the richness and diversity of the land. To conduct a proper scientific investigation, they built up a number of scientific societies and institutions of which The Asiatic Society in Calcutta gained the most prominent position. From this Society, a periodic publication of the results of scientific investigations started coming from the late 18th century, thus establishing a tradition of modern science in India.

Thus, scientific investigation in India has colonial roots. However, the contemporary leaders of Indian society saw science not as an extension of colonial legacy but rather a vehicle of progress against medieval backwardness and a means of gaining self-reliance. This spirit was nurtured by their able successors and was transformed into a crucial part of the anti-colonial, anti-imperialist battle for independence. After independence, this heritage of scientific pursuit strove to gain its full expression and this endeavour is still alive. As mentioned in the title, we would try to provide a glimpse into how this urge to question affected the development of Chemistry and Physics over the years. We would focus only on basic trends, mention some milestones, and in particular, the scientists whose works and personalities shaped Indian science.

Mahendralal Sarkar and the Birth of the Cultivation of Science

A man called Mahendralal Sarkar, who had an illustrious career as a doctor decided to build an association funded, run, and managed by native Indians with the objective of bringing Indian scholars together for national reconstruction. In this context, it would be unwise not to mention a thing or two about Sarkar so that the reader can fathom what it took to be a founder of such an association in the then India. Sarkar passed his final examination from

the Calcutta Medical College in 1860 with highest honours in medicine, surgery and midwifery. His professors were impressed by his scholarship to such an extent that he was invited to deliver a series of lectures on optics to his fellow students. He and his batchmate Jagabandhu Bose were the second MDs to graduate from Calcutta University after Chandrakumar De. Among his patients were the legendary Bengali litterateur Bankim Chandra Chattopadhyay, the erstwhile Maharaja of Tripura and Ramkrishna Paramhansa.

In 1876, the Indian Association for the Cultivation of Science was established with Sarkar as the founder secretary. This was more like a learned society rather than a full-fledged institute in the day. Today, it proudly stands as the oldest research institute in the whole of Asia. In those days, the atmosphere seemed to be more informal where lectures were organized at regular intervals. Talks by Father Eugene Lafont were particularly popular. Sarkar also used the Society as a platform to support the cause of higher education for women. Apart from The Asiatic Society, the Association developed as a hub for learning and higher education, especially in the basic sciences.

Prafulla Chandra Ray – Father of Indian Chemistry

Prafulla Chandra Ray was a student at the Metropolitan College and an external student at Presidency College for pursuing Chemistry in his FA course for entrance to graduate college. Though Ray's primary interest was in history and literature, he was inspired by the lectures delivered by Sir Alexander Pedler, who was also instrumental in the founding of the IACS and was a Fellow of the Chemical Society. Ray became a graduate student at the University of Edinburgh in August 1882 on a Gilchrist Fellowship and worked with Alexander Crum Brown and his demonstrator, John Gibson, who was a student of the legendary Robert Bunsen of Bunsen Burner fame. In 1885, his essay on 'India before and after the Mutiny', though strongly critical of the British Raj was nonetheless assessed as one of the best entries in a university competition and was highly praised by William Muir, the recently appointed Principal of the University and a former lieutenant-governor of the North-Western Provinces in India.

After earning his B.Sc from the Edinburgh University, Ray decided to pursue his doctoral studies under the supervision of Brown. Though Brown was an organic chemist, Ray showed an inclination towards inorganic chemistry. This was the sign of a true visionary as there were very few giants in the field. Ray decided to explore the domain of metal double sulphates. Ray was awarded the Hope Prize which allowed him to work on his research for a period of one year after completion of his doctorate. His thesis title was *Conjugated Sulphates of the Copper–magnesium Group: A Study of Isomorphous Mixtures and Molecular Combinations*.

It is a cliche these days to say research groups used to be smaller and less diverse in the early twentieth century. This is a gross misconception on the part of the average science enthusiast or worker as one look at the Chemistry family tree of Professor Ray renders the stereotype absolutely baseless. As per reliable records, he had at least twenty odd students who eventually became leaders in various disciplines of Chemistry. Among his illustrious students were the likes of Prafulla Chandra Mitter, Prafulla Kumar Bose, Praphulla Chandra Guha and Hemendra Kumar Sen in Organic Chemistry, legends like Priyadaranjan Ray in Inorganic Chemistry and, Jnanendranath Mukherjee, Jnan Chandra Ghosh and Nil Ratan Dhar in the domain of Physical Chemistry.

Jagadish Chandra Bose – Pioneer of Physics in India

Jagadish Chandra graduated from St. Xavier's College, Kolkata and received a B.A. degree from Calcutta University in 1879. During his studies, he was inspired by Father Lafont to delve into natural sciences. On his father's advice he went to the University of London to study medicine but could not continue due to health issues. He was then admitted to Christ's College, Cambridge and was awarded a Natural Sciences Tripos B.A. from Cambridge University in 1884 as well as a B.Sc from the University of London in 1883. He conducted research under Lord Rayleigh and received his D.Sc from the University of London simultaneously with his B.Sc. At Cambridge, he met Prafulla Chandra Ray and they became close friends. He then returned to India and in spite of considerable resistance from the Principal of Presidency College and the Director of Education, could acquire the position of a Professor of the College in 1885. Due to the intrigues of these British officials, his salary was one third of his European colleagues and as a protest, he refused to accept any pay for the first three years of his tenure. Nevertheless, he converted the tiny room allotted to him into a laboratory, buying equipment with his own money and contributions from Sister Nivedita.

From 1894, he carried out extensive research on the generation, transmission and reception of microwaves and millimetre waves. His first papers on polarization of these waves, published in 1895, were the first published by an Indian in European journals. They also reported the first plan for a receiver of these invisible waves. His demonstrations and papers got enough recognition for him to obtain a six-month visit to Europe in 1896. There, he met Guglielmo Marconi and discussed the technology for wireless communication. While Marconi went ahead to commercialise his technology, as well as obtain the Nobel Prize, Bose clearly expressed his disinterest in that area. In 1899, he developed the first solid state receiver using the iron-mercury-iron double junction, predating a technology by more than a century. He had preceded this by another solid state detector, galena or lead sulphide. He also developed components for microwave optics such as waveguides, horn antennas, dielectric lenses and polarisers. According to Sir Nevill Mott, he could visualise P- and N-type semiconductors, too.

In 1917, on his 60th birthday, he established the Bose Institute, the first multidisciplinary research institute in Asia. The first governing council meeting was chaired by Sir Nilratan Sircar and elected Lord Sinha and Rabindranath Tagore to the council. Here, he carried out his pioneering research on the response of external physical stimuli such as electric fields, microwaves, and chemicals on plants, thereby laying the foundations of biophysics. He designed and fabricated the necessary equipment in the Bose Institute workshop. The most important properties of phototropism, i.e., the growth of the shoot towards Sun and that of the root towards Earth, common to all plants, were established by Jagadish Chandra through a set of very simple and elegant experiments. Besides being a pioneering researcher, he was as great a teacher and mentor as Prafulla Chandra and these two friends were lovingly referred to as 'Acharya' or 'Great Teacher'.

Towards Independence: 1920s to 1940s

The 20th century opened with the establishment of the Indian Institute of Science in 1909 in Bangalore. It grew from the idea of a research university shared by Swami Vivekananda and the eminent industrialist Jamsetji Tata and was financed by Tata and the British Government while the Maharaja of Mysore donated over 370

acres of land. It opened with the departments of General and Applied Chemistry and Electrical Technology. This was the beginning of the emerging Indian industrialists taking interest in the growth of science in India. In due course, both Tata and Birla contributed to the growth of other research institutions such as the Institute of Nuclear Physics established by Meghnad Saha.

The second decade of the 20th century ushered in what, in all senses, was the Golden Era of Indian Science. This was foreshadowed not only by the establishment of the College of Science and Technology in the University of Calcutta in 1914, the Indian Science Congress Association in the same year, and the Bose Institute in 1917 but also by the 'Class of 1915' in Master of Science from the College of Science that produced Satyendra Nath Bose, Meghnad Saha, Snehamoy Dutta, Nikhil Ranjan Sen, Jnan Chandra Ghosh and Jnanendra Nath Mukherjee. Each of these students of Acharya Jagadish Chandra and Prafulla Chandra took giant strides to put India on the map of World Science in different areas from the 20s to the 40s. S.N. Bose and M.N. Saha were appointed faculty members in the newly set up Physics and Applied Mathematics Department of the University by the visionary Vice Chancellor Ashutosh Mookerjee just after a year of their gaining the M.Sc degree. In his monumental effort to build up the College of Science as a centre of international repute, Mookerjee got the unstinted financial support of the eminent lawyers Tarak Nath Palit and Rashbehary Ghosh and the Maharaja of Khaira.

In 1930, Satyendra Nath published his famous work on Quantum Statistics which was most enthusiastically supported by Einstein. It showed that half of all quantum objects, including photons (electromagnetic radiation quanta), follow a fundamental behaviour called Bose-Einstein Statistics and these were subsequently named 'bosons' by Dirac. This revolutionary work has led to the understanding of the nature of photons, nuclei and atoms with even spin, quasiparticles, lasers, superconductivity, superfluidity, and Bose-Einstein condensation with research leading to several Nobel Prizes but none of these came to Bose or to India. This publication was followed by a number of papers of immense importance in areas varying from chemistry to general relativity, side by side with setting up of centres of excellence in Dhaka, Viswa Bharati and Calcutta University.

Meghnad Saha utilised the idea of chemical equilibria to understand the ionisation of elements in the chromosphere of stars and, in 1920-21, developed an equation to extract the chromosphere temperature from stellar spectra. This is the celebrated Saha Ionisation Equation, considered to be one of the ten most important equations in Physics and was a crucial step in the development of astrophysics. While Bose was engaged primarily in developing research and educational facilities for academia and disseminating science in vernacular languages, especially Bengali, Saha was instrumental in establishing facilities and institutions for both basic and industrial research. He founded the National Academy of Science, India and the Indian National Science Academy, revamped the IACS into a world class research institute as its Director, was active with Netaji Subhas Chandra Bose in building up the Planning Commission in 1938 and worked with S.S. Bhatnagar on the foundation of the Council for Scientific and Industrial Research (CSIR). In 1950, he established the Institute of Nuclear Physics, which was renamed Saha Institute of Nuclear Physics in his memory.

Snehamoy Dutta was one of the most talented spectroscopists who, besides working on the spectra of elements that closely followed Saha's research, established an excellent spectroscopy laboratory in Presidency College and carried out studies

on nitrogen, halides and a range of metals. In his stint at Rajshahi College, he was involved in a variety of new areas such as studies on drugged animals and alloy metals.

Nikhil Ranjan Sen, known as the pioneer of General Relativity and Applied Mathematics in India, worked on potential theory, solid geometry, elasticity and hydrodynamics for his D.Sc from Calcutta University and on the effect of charge on General Relativity a PhD degree from the University of Berlin. In Calcutta University, he established the Calcutta School of Relativity in the 1930s, which investigated the effect of mass, density, radius, temperature and pressure in the stellar bodies, as well as the Computational Laboratory and Fluid Dynamics Laboratory, the first fluid dynamics laboratory in India. In his later years, he worked on, among other things, internal constitution of stars, ballistics, turbulence, and on the theory of the expanding universe.

Jnan Chandra Ghosh was appointed as the Palit Professor of Chemistry in Calcutta University, again by the visionary Sir Ashutosh Mookerjee, in 1915 when he was far from getting a doctorate. The great scientist Walther Nernst mentioned Ghosh's work in his reputed book *Theoretische Chemie* in 1921. G. N. Lewis, the originator of the modern theory of chemical bonds, in 1923 agreed with Ghosh that even in a strong electrolyte a certain fraction of the ions are free or outside the sphere of mutual attraction. Only after Ghosh's work, the concept of strong electrolytes and the importance of electrostatic forces between the ions came to be universally accepted. In 1939, Ghosh joined the Indian Institute of Science as its Director. He introduced new subjects of like Power Engineering, Fermentation Technology and High Pressure and Industrial Gas Reactions and smoothed the way for a rapid development of the Indian Institute of Science in the fields of higher engineering and technology. These laboratories pioneered the study of complexes involving the catalyst in the Fischer-Tropsch synthesis of liquid fuel from carbon monoxide and hydrogen.

Jnanendranath Mukherjee initiated the study of colloids in India. He wrote a paper titled *Electric Synthesis of Colloids* during his M.Sc which got published in the *Journal of the American Chemical Society* (JACS). His PhD research was the development of the Boundary Method for the determination of the cataphoretic speed of colloidal particles. A paper describing the apparatus and its working was published in the *Proceedings of the Royal Society* in 1928. Later, Dr. Arne Tiselius developed a more refined apparatus and won the Nobel Prize. Dr. Mukherjee was able to foresee how basic studies on soil colloids could be of help in understanding many of the soil properties and problems. He brought to use in the study of the soil, all the tools and techniques he had been developing and improving through years of patient research. Besides making pioneering contributions in the domain of soil science, Dr. Mukherjee played a key role in the development of agricultural research and education in the country. After his appointment as Director of the Imperial (now Indian) Agricultural Research Institute, New Delhi, in 1945 the Institute expanded considerably in terms of its academic activities and scientific performance.

Besides this group, there were other stalwarts in physics and chemistry who emerged during these years. One of them was Debendra Mohan Bose, who obtained his Master of Arts degree from Calcutta University in 1906. He was appointed as Rashbehary Ghosh Professor of Physics at the College of Science, Calcutta University, in 1914. After this, he spent an extended period in Germany working on the development of a new type of cloud chamber to track particles produced from different

nuclear processes. In 1919, he returned to Calcutta University as Ghosh Professor, in 1932 became Palit Professor and finally in 1938 became the Director of Bose Institute. With his colleague, Bibha Choudhuri, who became the first Indian woman to gain a PhD in science, he carried out studies on cosmic rays and they were the first to detect the pi-meson or pion but unfortunately due to the lack of proper imaging materials, could not lay a claim to the Nobel Prize which went to Cecil Frank Powell.

Of course, the great moment for Indian science and India came in 1930 when Chandrashekhar Venkat Raman was awarded the Nobel Prize in Physics for his work on the eponymous light scattering phenomena he discovered on 28 February 1928. He was not only the first Indian but the first non-white to get the Prize in any branch of science. Raman scattering, along with Compton scattering, laid the foundation of Quantum Field Theory, an essentially new physics. It also opened the door to the spectra of molecules and atomic organizations in general whose inherent symmetry prevented probing through standard spectroscopic techniques. Raman carried out his research almost entirely at the IACS with his student K.S. Krishnan. In 1917, became the first Palit Professor of Physics in Calcutta University. He moved to Bangalore in 1933, and became the first Indian Director of the Indian Institute of Science. In 1948, he established the Raman Research Institute. Raman's other scientific interests were in acoustics, in the blue colour of bulk water which he proved to be due to scattering by water molecules, in the spin of photon, in acousto-optics, in the spectra of crystals especially iridescent ones, and in the optics of soft matter such as colloids and biological material.

Among the students and associates of Raman, the most renowned are Kariamanikkam Srinivasa Krishnan and Kedareswar Banerjee. The former was a co-discoverer of the Raman effect and the initiator of research on the magnetic properties of crystals, while the latter is called the first x-ray crystallographer in India. Both have extensive and comprehensive bodies of research publications that have laid the foundations of the respective areas.

Shanti Swarup Bhatnagar, besides his extensive research on the chemistry of colloids and emulsions, initiated research on magneto-chemistry in India through the development of a magnetic interference balance to measure magnetic effects on chemical reactions. His focus, however, was on problems of Indian industry covering a wide range from animal husbandry to oil refineries and steel mills and consequently, prompted him in the endeavour to establish the Board of Scientific and Industrial Research in 1940, that eventually was transformed to the CSIR in 1942. The CSIR in 1943, accepted Bhatnagar's proposal to set up the National Physical Laboratory, The National Chemical Laboratory, the Fuel Research Station, and the Central Glass and Ceramic Research Institute.

Prafulla Chandra Mitter was among the senior students of Professor Ray. He worked extensively on various organic compounds like beta ketonic esters and beta diketones. This series of investigations were performed with his student Jogendra Chandra Bardhan who later developed a novel method to synthesize phenanthrenes which is the state of the art to synthesize the compound and its derivatives to this day. Prafulla Kumar Bose became friends with H.K. Sen, B.C. Guha and J.N. Ray during this time, all of whom were outstanding scholars. He developed an interest in alkaloid and coumarin chemistry during this time and continued to pursue research in these areas after returning to Calcutta. He did pioneering research in the structural elucidation of chemonastic substances in *Mimosa pudica.* P.C. Mitter was

not only a great chemist, but also a greater teacher.

After Independence

Independence brought in a massive organization and reorganization of scientific and technological bodies addressing all aspects of national life. The most important of these were the University Grants Commission, the Indian Institutes of Technology, the Department of Atomic Energy, the Department of Science and Technology, the Indian Council for Agricultural Research, and the Indian Council for Medical Research, among others. However, instead of focusing on these organizations we shall continue looking at the scientific personalities who emerged as the new leaders. The great strides made in pre-independent India in physics and chemistry led to the consolidation of research in a newly formed nation. Among the eminent chemists, we shall mention the contributions of Phanindra Chandra Dutta, Usha Ranjan Ghatak, Sasanka Chandra Bhattacharyya, Asima Chatterjee, Sadhan Basu and Mihir Chowdhury.

One of the brightest students of Prafulla Chandra Mitter was Phanindra Chandra Dutta. He worked on synthesis of alicyclic compounds during his PhD in 1938. In 1947, he worked under Professor Paul Karrer, a Nobel Laureate, at the University of Zurich on anti-vitamin activities of vitamin E with incorporation of sulphur atoms. A year later, he switched over to ETH laboratories of Professor Ruzicka, another Nobel Laureate, to work on sesquiterpenes, a subject which became his life-long interest. In 1949, he carried out studies on the synthesis of 11-ketoperhydrophenanthrenes related to cortisone. In 1953, he returned to India and joined the Department of Organic Chemistry, Indian Association for the Cultivation of Science, Calcutta, as Head of the Department.

Usha Ranjan Ghatak was an excellent organic chemist of national and international repute who did his PhD under P.C. Dutta on stereocontrolled synthesis of resin acids. During his four years of postdoctoral research in USA, he worked in a wide field of organic chemistry from carcinoidal compounds to alkaloids to peptide chemistry and biochemistry. Ghatak joined IACS in 1963 as a faculty member and continued working in the area of stereocontrolled synthesis of natural products which was then at its infancy, including synthesis of complex carbocyclic natural products. His contribution in organic chemistry is marked by a deep understanding of the conformational, steric and mechanistic factors which control bond formation in organic synthesis and was focused on new reactions that form such bonds in novel ways. He unraveled the way how the highly unstable carbenoid species can be successfully utilised in carbon-carbon bond formation.

Sasanka Chandra Bhattacharyya submitted his doctoral thesis on sandalwood oil chemistry at Dhaka University in 1943 which awarded him the degree a year later. He would later enrol himself at Cambridge University in 1945 under the guidance of B. Lythgoe, a Royal Society fellow, to secure a second PhD in 1949, working on *Centella asiatica*, a plant used for treating leprosy. In 1950, Bhattacharyya joined IISc as a faculty member and then at the National Chemical Laboratory (NCL), where he established a new division for essential oils. His next move was to the Indian Institute of Technology, Mumbai in 1966 as a senior Professor where he established the Department of Chemistry. In 1977, he joined Bose Institute, Kolkata as its Director. His work at Cambridge University focused on the anti-leprosy properties of *Centella asiatica* where they attempted to elucidate the chemical constituents of

the medicinal herb. He carried forward his researches on terpernoids in India too and worked on the synthesis of natural musk odorous compounds which resulted in the development of compounds such as muscone, dihydrocivetone, exaltone, exaltolide and ambrettolide which are reported to have commercial value. Besides, he also synthesised compounds such as jasmines, rose oxide, santalols and santalenes. One of the major contributions of the research group led by Bhattacharyya was the demonstration of the antipodal nature of constituents of Vetiver Oil. Overall, he was known to have isolated over 100 compounds falling under terpenoids and coumarins categories.

Asima Chatterjee, who was the first woman to get a PhD in Science from an Indian university, was mentored by P.C. Ray and P.K. Bose and received her degree in 1944 from Calcutta University. She then joined as the faculty in the Chemistry Department of the University and continued her research on the chemistry of medicinal plants, developing anti-epileptic, anti-convulsive, anti-malarial, and chemotherapeutic drugs from different Indian plants. Her huge body of research work was the cornerstone in the study of phytochemistry in India.

Sadhan Basu conducted research both in the areas of polymer chemistry and quantum chemistry. After his D.Sc with Prafulla Kumar Bose, in 1954 he joined the faculty of the University of Calcutta and remained there for the next three decades. One of the pioneers of polymer chemistry in India, his studies were primarily in the fields of charge-transfer interactions, ligand field spectra, hydrogen bonding, quantum chemistry and photochemistry. His work lent strong support to the quantum mechanical model of charge transfer complexes originally propounded by Robert S. Mulliken. He developed a methodology to determine the -NH_2 group in nylon, which has since been accepted as a standard industrial procedure. His article with J.N. Sen and S.R. Palit, published in 1950 was the first Indian article on polymer chemistry.

Mihir Chowdhury studied the electronic structure of molecules and widened the understanding of charge transfer, exciton and parity forbidden transitions of metal complexes, diazines, bimolecules and rare earth complexes. He developed facilities to carry out his spectroscopic and fast kinetic experiments and studied various fields of spectroscopy such as laser, time-resolved and non-linear optics, and elucidated role of spin and magnetic field in the radical pair recombination process, circular dichroism of crystal field split components in cooled single crystals, and laser-induced fluorescence of jet-cooled large organic molecules and their hydrated clusters. His work showed for the first time that the charge transfer band is polarised along the intermolecular axis.

Among the post-Independence Indian physicists some of the most notable are—Homi Jehangir Bhabha, Amal Kumar Raychoudhuri, Manali Kallat Vainu Bappu, Shivaramakrishnan Pancharatnam, and Daulat Singh Kothari, among others.

In 1933, while working with Enrico Fermi, Bhabha published his first paper on the role of electron showers in absorbing gamma rays, especially from cosmic radiation. His research played a key role in the development of quantum electrodynamics. Electron-positron scattering has been named 'Bhabha scattering' after him. He also could identify for the first time the presence of mesons in the cosmic showers. In 1939, he joined the faculty at IISc and in 1943, he proposed to J.R.D. Tata the establishment of the Tata Institute of Fundamental Research which was realized in 1945 in Mumbai. Among other areas of research at TIFR, Bhabha's group was the first to identify the K^- strange particle.

Following up on his letter to Jawaharlal Nehru, he persuaded the latter to set up the Atomic Energy Commission in 1948 and the Department of Atomic Energy in 1954.

Amal Kumar Raychaudhuri in 1955, showed through an equation known by his name that singularities are inevitable in general relativity and cosmology. It was the most important extension of Einstein's theory and the crucial step for Roger Penrose and Stephen Hawking in their theory of evolution of black holes. Raychaudhuri was at that time in a research job in IACS and submitted his PhD thesis to get the degree in 1959. He joined the faculty of Presidency College in 1961, where besides becoming a legendary teacher, he continued working on general relativity and cosmology.

M.K. Vaina Bappu discovered, along with Bart Bok and Gordon Newkirk, discovered a new comet in 1949. This has been named the Bappu-Bok-Newkirk comet, the only comet bearing the name of an Indian. He also discovered the correlation between the brightness of G, K, and M stars with the width of the Ca line in their spectra. The correlation named the Wilson-Bappu effect was an important step in solar chromosphere research. In 1971, he modernised the Indian Institute of Astrophysics and set up an observatory with a large indigenous optical telescope in Kavalur. This is now called the Vainu Bappu Observatory.

Pancharatnam, a nephew and student of C.V. Raman, was the initiator of quantum optics in India. He worked on the effect of optical pumping in gases such as double refraction due to spin alignment. However, his most important work, published in 1956, was the geometric phase known as the Pancharatnam phase. This is a change in phase acquired by some systems when they pass through a cyclic change, which puts them in a separate class as the most natural situation is that of the phase change disappearing over a cycle. It is a fundamental property of both classical and quantum systems with a singularity or topological defect around which this phase is observable and it can be used to locate the singularity or the defect.

Among the students of M.N. Saha, was Daulat Singh Kothari. Besides his pioneering works on quantum statistics of dense matter, especially in stellar bodies like white dwarfs as also on particle physics, he was the architect of defence research in India. His main contribution in this field is of course after independence, when he framed the entire defence research and education of the nation. He was the founder of most of the Defence Research and Development Organization laboratories. When the University Grants Commission was established in 1953, he became its Chairman from 1961 as also the Chairman of the Indian Education Commission of 1964-66, which created a map for modernization and standardization of Indian education.

During these years, physics and chemistry in India grew beyond their original boundaries and entered the realms of outer space on one hand and tinkering with the living world on the other. The Indian Space Research Organization was established in 1969 under Vikram Sarabhai with its headquarters in Bangalore. Besides a long series of successful forays into outer space culminating in the historic landings on Moon and Mars, and probing the solar chromosphere, the geosynchronous satellites have revolutionized telecommunications and meteorology, which in turn has provided unprecedented connectivity throughout the nation and, in conjunction with agricultural research, changed India from a nation with food shortage to one with enough food surplus to feed other countries.

In 1986, the Department of Biotechnology was established under the leadership of S. Ramachandran. The first

autonomous institute, the National Institute of Immunology which was set up in 1981 was brought under the wings of DBT. Soon after, it was joined by the National Facility for Animal Tissue and Cell Culture of Pune formed in 1986 which was later christened the National Centre for Cell Science. The late 1990s and early 2000s saw many other institutes like The National Institute for Plant Genome Research (NIPGR), the National Brain Research Centre (NBRC) followed, the Centre for DNA Fingerprinting & Diagnostics, Institute of Bioresources and Sustainable Development and the Institute of Life Sciences take shape. Subsequently, several other prominent institutes like Translational Health Science and Technology Institute (THISTI), Institute for Stem Cell Biology and Regenerative Medicine (INstem), National Agri-Food Biotechnology Institute (NABI) at Mohali, and National Institute of Biomedical Genomics (NIBMG) at Kalyani in West Bengal were established.

There is also renewed effort on social aspects such as health care, food and agriculture, energy and environmental security.

After the first five IITs established in the 50s and 60s, eighteen new IITs joined the network starting from the 90s to the second decade of the new millennium. Now there are two international branches, one in Abu Dhabi and the other in Zanzibar. Similarly, the fifteen regional engineering colleges of the previous era were converted to National Institutes of Technology and two more were added in the 80s. Again, seven Indian Institutes of Science Education and Research were established, beginning from 2010, for teaching and research in natural science and to provide collegiate education in basic sciences integrated with research at the undergraduate level. This huge network, aligned with the basic research institutes, is providing the human resource for the advancement of basic and applied chemistry and physics in India.

Looking back on this long and glorious tradition, we feel that while there is a continuity in the research trends between the pre- and post-Independence eras, after independence the focus of research shifted towards investigating the natural resources of the nation and building upon them. This was only natural for a newly independent republic and it definitely made India not only self-reliant but helped it gain stature in the world. However, especially in the first three decades, this probably had a somewhat adverse effect on curiosity-driven research and the number of fundamental new discoveries was not in proportion to the hugely expanded manpower and resources available. After the 90s and especially in the new millennium, a course correction is evident and Indian science is regaining its rightful place in the global science map.

A Comprehensive Catalogue of Books under Monograph Series

The Monograph series is one of the famous series among the publications of The Asiatic Society known to the world of academics. The series was introduced in the year of bicentenary of the birth of Sir William Jones in 1946 by the Council with a view to publish books on special subjects. So far (July 2024) 73 (LXXIII) titles have been published under this series. First publication under this series was *Asvaghosa* authored by B. C. Law and the latest publication is *Octavio Paz on India : A Study in Hispanic Orientalism* authored by Jyoti Ghosh. The first book (Monograph Series No. I) was published in 1946 and the latest book (Monograph Series No. LXXIII) was published in October 2023. The complete list of books under the Series is published below serially.

Some titles are with diacritical marks and some are not. Hence the diacritical marks have been avoided on all the books. Kind-hearted and large-hearted readers may kindly note.

Monograph No.	Year of publication	Name of the book	Name of the Author
I	1946	Asvaghosa	B. C. Law
II	1946	The Kol Tribe of Central India	W. G. Griffiths
III	1947	On the Chronicles of Ceylon	B. C. Law
IV	1948	Bhalesi Dialect	S. Varma
V	1948	The Upper Atmosphere	S. K. Mitra
VI	1948	Humayun in Persia	Sukumar Roy
VII	1949	Blue Annals	G. N. Roerich
VIII	1953	Inscriptions of Kambuja	R. C. Majumder
IX	1950	The Original Correspondence of Sir Joseph Banks	K. P. Biswas
X	1960	The Origin and Development of Bhojpuri	U. N. Tewari

Monograph No.	Year of publication	Name of the book	Name of the Author
XI	1965	The Rajbansis of North Bengal	Charu Chandra Sanyal
XII	1967	Carrying Capacity of Land Under Shifting Cultivation	Saradindu Bose
XIII	1968	Community Development in Chotanagpur	Jyoti Sen
XIV	1968	Rajbadidanga (Chiruti : Jadupur)	Sudhir Ranjan Das
XV	1968	India and Ethiopia from the Seventh Century B.C.	Suniti Kumar Chatterji
XVI	1969	Nana on Lion	Bratindra Nath Mukherjee
XVII	1970	Vaisnava Iconology in Nepal	Pratapaditya Pal
XVIII	1971	The Stupa and Vihara of Kaniska I	K. Walton Dobbins
XIX	1971	Archaeological Discoveries from Mursidabad (West Bengal)	Sudhir Ranjan Das
XX	1972	Late Mediaeval Temples of Bengal, Origins and Classification	David J. McCutchion
XXI	1972	History of Internal Trade Barriers in British India : A Study of Transit and Town Duties	Tarasankar Banerjee
XXII	1972	Iranianism	Suniti Kumar Chatterji
XXIII	1972	Biology of Senescence—Problems and Perspective	Rudrendra Kumar Pal
XXIV	1972	Bangladesher Sang Prasange	Bireswar Bandyopadhyay
XXV	1981	Some Psychological Aspects of Early Buddhist Philosophy based on Abhidharmakosa of Vasubandhu	Aruna Haldar
XXVI	1982	Royal Succession in Ancient Cambodia	Adhir Chakravarti
XXVII	1987	Crime and Detective Sciences in Selected Ancient Indian Literature	Upendra Nath Biswas
XXVIII	1989	Origin and Development of Sanskrit Metrics	Arati Mitra

Monograph No.	Year of publication	Name of the book	Name of the Author
XXIX	1994	Lower Sundarban, Role of Fisheries in its Sustainable Development	B. C. Sarma
XXX	1994	Epic Women : East & West	Sister Maeve Hughes
XXXI	1996	Jiva Gosvamin	Asoke Chatterjee Sastri
XXXII	1997	Jottings on the Literary Aspects of the Brahmanda Purana	Asoke Chatterjee Sastri
XXXIII	2001	Father Eugene Lafont of St. Xavier's College, Kolkata and the Contemporary Science Movement	Arun Kumar Biswas
XXXIV	2002	Mystical Buddhism from a Sibylline Perspective	Satadal Kar Gupta
XXXV	2002	Understanding the Prophetic : The History and Philosophy of Prognostication in Ancient India	Satadal Kar Gupta
XXXVI	2002	Sanskrit and Modern Medical Vocabulary	Asoke Bagchi
XXXVII	2003	The Sounds of Bengali and French	Aditi Ghosh
XXXVIII	2003	Rock Art Studies in India—A Historical Perspective	Somnath Chakraverty
XXXIX	2004	Gaudiya Nritya—Prachin Banglar Sastriya Nrityadhara	Mahua Mukherjee
XL	2004	Dr. Bidhan Chandra Ray—A Jewel of India	Asoke Bagchi
XLI	2004	The Quest for Identity : The Tribal Solidarity Movement in North-East India, 1947-1969	Amalendu Kishore Chakraborty
XLII	2006	Urban Development in Ancient India	Adhir Chakravarti
XLIII	2007	Subhankari	Santanu Chacraverti
XLIV	2007	The Folk Rhymes of the Bengali Vratas	Bhabataran Datta
XLV	2007	Alexander Csoma De Koros, Vol. I : Csoma Korosi's Planet	P. J. Marczell
XLVI	2007	Alexander Csoma De Koros, Vol. II : British-Indian Source Documents	P. J. Marczell

Monograph No.	Year of publication	Name of the book	Name of the Author
XLVII	2007	Women's Studies and Women's Movement in India	Kusum Datta
XLVIII	2008	The Avestan Compounds	Pranabesh Sinha Ray
XLIX	2008	Economic Impact of Raids on the Shifting Cultivators of Tripura	Malabika Das Gupta
L	2008	Excavations at Moghalmari	Asok Datta
LI	2009	An Approach to the Cultural Mapping of North-East India in respect of Tribal Tales	Pratibha Mandal
LII	2011	Mineral Processing to Elemental Science in the Medieval World : India and Europe	Arun Kumar Biswas
LIII	2011	Buddhist Hybrid Sanskrit Literature	Sukumari Bhattacharji
LIV	2011	The Kanvakubja-Gauda Struggle from the 6th to the 12th Century A.D.	D. C. Sircar
LV	2012	The Rise of Civil Society in Bengal	Asoke Basu
LVI	2012	Sattabader Prekshite Kierkegaard, Rabindranath O Sartre	Santwana Majumdar
LVII	2013	Introducing India	K. N. Bagchi & W. G. Griffiths
LVIII	2013	Bengal School of Astronomy	A. K. Chakravarty
LIX	2015	History of Indian Medicine based on Vedic Literature : Satapatha Brahmana	Mridula Saha
LX	2015	Towards Naiskarmya : Suresvaracharya on the Method of Vedanta	Alexander Pereverzev
LXI	2016	Iconography of Images of Hindu Deities in Thailand	A. K. Bhattacharyya
LXII	2016	An Enquiry into the Status of Lepcha	Satarupa Dattamajumdar
LXIII	2017	Buddhadeva	Kalpika Mukhopadhyay
LXIV	2017	Persian Studies under the Sultans of Bengal	Ghulam Sarwar

Monograph No.	Year of publication	Name of the book	Name of the Author
LXV	2017	Birhor : Ekti Banachari Adim Adibasi	Bimalendu Majumdar
LXVI	2018	Kirata Janakriti	Suniti Kumar Chatterji
LXVII	2018	Exploring Ethno-Linguistic Vitality: A Study of the Nature and Extent of Endangerment in Tiwa (Lalung) Language	Satarupa Dattamajumdar
LXVIII	2019	Indigeneous Roots of Modern Science in Colonial Bengal	Asoke Basu & Saibal Datta
LXIX	2019	Rabindrakavye Itihas-carana : Aitihyachetana o Adhunikata	Subhas Chandra Bandyopadhyay
LXX	2019	Pandit Iswarchandra Vidyasagar	France Bhattacharya
LXXI	2019	Consequence of Ageing in a Tribal Society and its Cultural Age Construct	Saumitra Basu
LXXII	2020	The Chin-Lushai Border : Community, State, Market : Emerging Perspectives	Asok Kumar Ray
LXXIII	2023	Octavio Paz on India : A Study in Hispanic Orientalism	Jyoti Ghosh

Compiled by **Sukhendu Bikash Pal**
Publication Officer-in-Charge
The Asiatic Society

Some Observations on Arithmetical Calculations Explained in the Manuscript : *Līlāvatī*

Surajit Manna
Museum Section, The Asiatic Society

Great Indian scholars like Āryabhaṭa, Varāhamihira, Brahmagupta and Bhāskarācārya (Bhāskara II) have contributed a lot in mathematics and are pioneer to the modern scholars. In every field of mathematics like arithmetic, algebra, geometry, they showed their excellency and took India at the zenith of its cultivation.

With an interest to find this legacy, I observed the manuscript *Līlāvatī*, the first part of *Siddhānta Śiromaṇi*, a masterpiece by Bhāskarācārya, a famous astronomer and mathematician of the twelfth century. In continuation with my earlier writing published in Bulletin of the Society for June, 2024, this time I am trying to find out the different aspects of arithmetic that are described in *Līlāvatī*. Among the few manuscripts on *Līlāvatī* available in the collection of The Asiatic Society's Museum, I have selected two manuscripts G 9747 & G 4380 for my purpose.

From Colebrooke's translation of the *Līlāvatī*, I have come to know that the author here mentioned six methods of multiplication among which includes:

1. Two methods of subdivision by form where the multiplicand (or the multiplicator) is divided by a number which is actually one of the factors of it and then the multiplicator (or the multiplicand) be multiplied by that number and then by the quotient which gives the product.

2. Other two methods where the multiplicand (or multiplicator) is diminished or increased by an assumed number and then the product is obtained by adding or subtracting the product of the multiplicator (or multiplicand) taken into the assumed number.

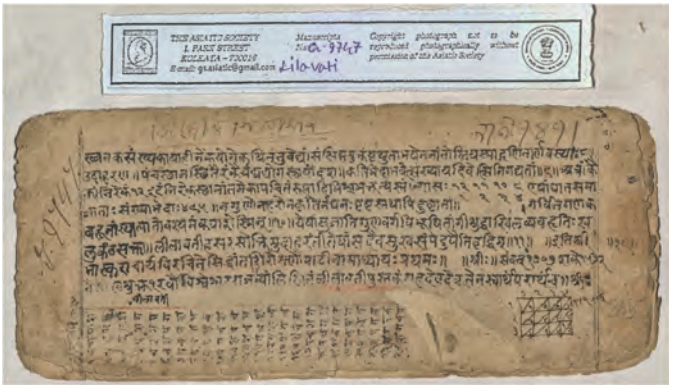
3. The rest two methods are of the ordinary one, which was called *tatstha* method

In the manuscript (G 4380), methods of multiplication are explained with example

by that time, where every digit of the multiplicand (or multiplier) is multiplied by the multiplier (or multiplicand) and this proceeds by joining the products along compartments. This is the usual process of multiplication which we follow.

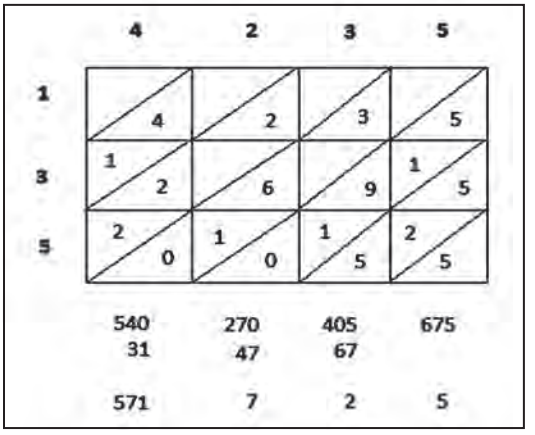
All the six methods appear very ordinary to me, but at that time, the rules were very useful and significant also in realizing multiplication of two numbers.

In last folio of the manuscript G 9747, I have found a diagram through which multiplication of two numbers is described. Analysing this diagram, I have come across a new process of multiplication which seems to me to be a beautiful one.



In the manuscript G-9747, the diagram is shown at the bottom right corner

I have tried to describe it below where I have chosen two numbers 4235 and 135 for multiplication:



1. At first, two numbers have to be written in the way as shown in the above figure i.e. one number along the row and the other along the column.

2. The product between the two digits corresponding to each shell has to be put in the lower part of the shell. If the multiple is a two-digit number, the unit digit has to be kept in the lower part and the ten digit in the upper part. In this way, all the shells have to be filled.

3. Now at the bottom of each column, the digits (starting from the lowermost shell) in the lower part of each shell have to be written serially (from the right) which will constitute a number. If there is any digit in the upper part of the shell, the same has to be added to the digit of the lower part of the shell just above it. For example, if we look at the number 540 which is at the bottom of the leftmost column, it is written as = (4+1) (2+2) 0= 540. In this way, all the numbers are written at the bottom of each column.

4. Keeping the unit digit of each number (starting from right) and adding the rest with the next number, we will get the required product.

So, how beautifully we have performed the multiplication of two large numbers in a simpler way!

During my study at the school level, I have read that the ancient Indian mathematicians have discussed about the mathematical problems of permutations and combinations. When I was observing the manuscript (G 9747), I got some hint and examples of permutation and combination that are described in some folios. We know that using four different digits, 4! (Four factorial) = 24 different four-digit numbers can be formed. But if two among the four digits are same, we will get (4! / 2!) = 12 different four-digit numbers. Again, if two among the four digits are of one type and the rest two are of another type, the permutation will reduce to [4! / (2! x 2!)] = 6. Similarly, for a five-digit number, 5! = 120 number of different five-digit numbers can be formed. But if three digits are of same kind, the combination of numbers reduces to [5! / (2! x 3!)] = 20. These are the basic laws of permutation and combination.

In one of the folios of the said manuscript, an example is explained with the number 2211 and 48555.

Examples of permutation and combination are shown here (manuscript G-9747)

I will end my current write-up mentioning the different rules of making square and cube of a number that are described in some folios of the manuscript (G 4380). For calculating the square of a number the following methods are illustrated:

1. Suppose we are trying to square of the number 9. Breaking the number into two parts like 4 and 5 and adding the sum of the squares of the parts with twice the product of two parts will give the square [$(4^2 + 5^2) = 41$; $(4x5) = 20x2 = 40$; $(41+40) = 81$]. This is nothing but use of the algebraic formula

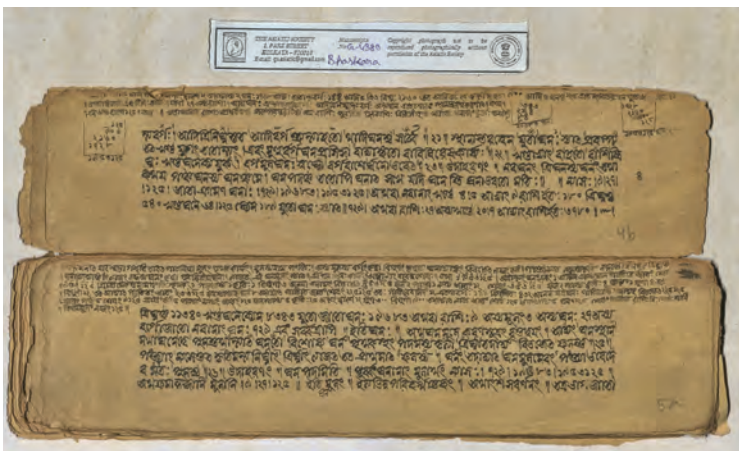
$(a+b)^2 = a^2 + b^2 + 2ab$. In the same way we can calculate the square of the number 14 by breaking it 8 and 6 or 10 and 4.

2. But if we want to square a number like 297, the above mentioned process will be more tedious. Another method is described to make it easy. First assume a useful digit and then take product of the sum and difference of the number and the assumed quantity and after that the product added to the square of the assumed quantity will give the square [(297+3) (297-3) +32 = 88209]. This is also nothing but the use of the algebraic formula $(a+b) \times (a-b) = a^2 - b^2$

Methods of performing square of a number are explained here (manuscript G-4380)

Again cube of a number can be performed in following manner-

Suppose we are going to cube of the number 27. We have to break it in two parts as 20 and 7. Product of the summation and multiple of the two parts and 3 added with the summation of the cube of the two parts will give the result. [$273 = \{3 (20x7) \times (20+7)\} + (20^3 + 7^3) = 19683$]. This is also a use of the algebraic formula $(a+b)^3 = a^3 + b^3 + 3ab(a+b)$. Using this process, we can easily calculate the cube of any two-digit number.



Methods of performing cube of a number are explained here (manuscript G-4380)

Therefore, it is needless to say that the ancient Indian mathematicians were experts in every mathematical operation and tried their best to make it convenient to the common people in their own way.

Eventually, I want to express my gratitude to Dr. Keka Adhikari Banerjee, Curator of The Asiatic Society for encouraging me to do this kind of work besides performing daily administrative duties.

Rabindranath Tagore and Sri Lanka : A Socio-Cultural Union

Sulagna Saha
Research Fellow, The Asiatic Society

"Yes, I am a traveller,
Nothing can hold me back,
False are the bindings of pleasure and pain,
The homely ties are left far behind."

– Rabindranath Tagore
The Wayfarer (Tagore, 1961).

The Bard of India, known far and wide for his virtuosity, Rabindranath Tagore is also remembered for his extensive travelogues to the various Orient and Occident countries. His deep-seated motivation to learn culture reflects from his travels around the globe only if one decides to delve deep into his travelogues. His love for universalism is re-affirmed by his lectures, whether in Japan or China. Tagore has always believed in the shared history of the Orient and personally vouched for it at countless incidents, which can be observed as one deciphers his lectures during his sojourns (Nag, 1944). His travels always had a motive of building and preaching a sense of universalism, right from his first travel in 1878 to Europe to his last visit in 1934. The gospel of mutual friendship, fraternity and universal brotherhood among the roots of Asian countries was preached by Tagore with gratification and pride.

Tagore has eloquently portrayed his travel affairs through his erudite works, letters and books. Among his many reminiscences, one of the most striking yet beautiful examples is his multiple travels and his close association with the island of Sri Lanka or Ceylon. Despite his three journeys to the Pearl of the Indian Ocean, in 1922, 1929, and 1934 besides 1924 and 1929, there have been sporadic echoes of the same in his works. Regarded as his treasured escape and his personal favourite, Tagore and his encounter with the vibrant island of Sri Lanka have been a less explored area (Nag, 1944). The bewildering fact here is that the poet was taking voyages even at an advanced age, even when his health was not in support of him. But the burning desire to coalesce the East was thumping to conquer his ill health, giving him the Dunkirk spirit to trounce his physical weariness.

The year 1922 marked the first official visit of Tagore to the land of Ceylon on the invitation of Dr. W. Arthur Re Silva, an eminent scholar, and alumnus of the University of Calcutta. Tagore was always admired and considered a key figure amongst the intellectuals of Sri Lanka who would direct the youth of the nation toward shaping a brighter and more prosperous society. The engrossing fact to note is that Tagore was invited at a time when Ceylon's nationalism was at its peak. The youth at that juncture needed an address about worldly knowledge and the unification of Asia. In the course of his lecture, Tagore affirmed that though the

modern map of Ceylon separates it from India, the people of Ceylon have the same morals, values, history, religion and language in their heartbeat. Towards the end of his lecture, (to youth of Ceylon) the poet is optimistic as he says, that though the spiritual bond between the nations has been at an ailing condition, there is an indispensable need for the revival and strengthening of the lost ties (Coperahewa, 2011). The next visit was, however, unplanned, when Rabindranath Tagore's unstable and delicate health conditions put a halt on his travel to the University of Oxford in the year 1928. However, the poet turned towards his favourite island for a detour, which turned into one of his longest stays on the teardrop island. The alienated ties saw a revamp and the two nations grew a cherished bond between themselves. The last official visit in the year 1934 was what made all the difference in making a Tagore a key figure.

Rabindranath Tagore being welcomed by Wilmot A. Perera

The Sinhalese or the common people of Sri Lanka referred to Rabindranath Tagore as Gurudev Rabindranath Tagore. Those people within the Sri Lankan community who were kind of used to or had an idea about the whole of the Bengali culture referred to him as 'Thakura'. However, the majority of the Sri Lankan people called him by his last name Tagore. Needless to mention every person in Sri Lanka who was an artist, dancer, critic, dramatist and even the common people for that matter considered him as a person who had a great influence on the nation in several ways. He visited the island only thrice but left to create an indelible impact on the hearts of the people. He greatly influenced their whole idea of nation-building.

Even though it is officially noted that he visited Sri Lanka in 1922 for the first time, in reality, he went to Sri Lanka in the 1890s when he was studying at the University of London.

Tagore visited the island in 1934 with his troupe to perform the *Shapmochan* as an endeavour to raise funds for Visva-Bharati. By this time the Sinhalese intelligentsia was well aware of the poetic as well as social excellence of the bard. The dance drama and its performance had a huge agenda than just raising funds, through the dance drama form Tagore wanted to transport the idea of Shantiniketan and encapsulate it within the culture of Ceylon (Coperahewa, 2011).

The cultural extortion of the rich cultural heritage of Ceylon was a worrisome fact for Tagore. He was disturbed by the fact that irrespective of having a rich historical heritage the island was giving way to the creation of a colonial identity. Thus he felt just like Bengal, Ceylon should also go through a Renaissance. He wanted to drive the nation towards a place of rich cultural identity but was in two minds about the response of the people towards Tagore's idea and ways for nation-building and for creating a cultural identity (Coperahewa, 2012). In this context, *Shapmochan*'s performance was an intentional endeavour to convince fellow citizens that it was time for them to reclaim their sense of self and shake off the scourge of enslavement and imperial mimicry. Here, we see an intricate equilibrium between what he advocated and what he delivered. If his speeches set theory in action, he was also striving to re-establish

praxis via performance. It was during the trip of 1934 to Sri Lanka, when Rabindranath Tagore, wanted the people of Sri Lanka to understand that he was trying to support them to find their cultural identity. He even wanted the people to understand that though the revival of the long-lost cultural identity is essential for the Sinhalese, he was trying to inculcate that it was the men of the island who could free the nation and themselves from the clutches of the colonial culture which was being forcefully imposed upon them. Along with the inspiring speeches that he used to give on such occasions, he always paired them with the performance of some drama. *Shapmochan* was coupled with the speeches of the poet, to make the whole nation of Sri Lanka rise and understand the importance of their own culture. It was also a medium through which different Asian cultures could exchange ideas with one another. The response of the Sri Lankan people to the dance drama of *Shapmochan* established that it was very well understood and finally, Rabindranath Tagore succeeded in planting the idea of one's unique cultural identity in the minds of the people.

Responses were pouring in about the performance. Most of them were received through newspaper clippings, letters, and news broadcasts in which the general folk admired and saw eye to eye with Tagore. People voiced their interests in Oriental music and read and translated the creations of Tagore into the curriculum of Ceylon, it was well understood the impact the maestro had on the Sinhalese crowd. From the exchange of cultural ideas to bringing people to the theatre for the first time to awakening with the people the interest in oriental music and finally creating the curriculum for school Tagore has been an air of effective cultural change and revivalism in the history of Ceylon. Tagore and his principles of universalism among the Eastern roots have ruled and moved people in ways more than one and now they wanted to inculcate the teachings and worldviews of Tagore in their day-to-day life. The teachings of Tagore served as a blessing in disguise for the land of Ceylon, which was under extreme political as well as ethnic turmoil. The mutual bond of love and understanding that was building up opened new avenues for more linguistic, and cultural exchanges between the two nations. The kind of impression that Rabindranath Tagore left is unparalleled. His work, creations and the skills that he possessed will never match up with any other person. He was a person who was much ahead of his time in terms of mentality, thinking as well as perception towards life. He always loved to think about a bright future and come up with ideas which focus on the holistic development of a person. He tried to make people understand through his work how important it is to practice one's own cultures and traditions.

Tagorean idea of nationalism, bereft of apathy and aversion towards other nations, had made a profound impact on the Ceylonese people which they still fondly cherish. Tagorean ideas, if followed even now, can pave the way for a fruitful bonding between the two neighbouring countries, India and Ceylon.

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Programme on Women Empowerment

The Asiatic Society organised a programme on Women Empowerment, themed 'Ardhek Akash,' on 24 May 2024 at 2.30 p.m. at the Vidyasagar Hall of the Society. The programme commenced with the garlanding of the bust of Pandit Iswar Chandra Vidyasagar by Emeritus Professor Ranjana Ray, Anthropological Secretary of The Asiatic Society. Then the inaugural chorus song was performed by Ms. Mala Chatterjee, Ms. Anita Roy, Ms. Sohini Das, Ms. Anuja Bose, and Ms. Shilpa Kar. Dr. Satyabrata Chakrabarti, General Secretary of the Society, delivered the Welcome Address.

The theme of the first technical session was 'Defendant Women Characters in Bengali Literature'. The introductory lecture was given by Professor Chandramalli Sengupta, Member of the Academic Committee, The Asiatic Society; Professor Tapati Mukherjee, Vice-President of The Asiatic Society, portrayed the women characters in the literature of Michael Madhusudan Dutt. Smt. Sujata Mishra, former Assistant Librarian of The Asiatic Society, recited a section from Rabindranath Tagore's creation; Ms. Dipali Das depicted Radharani Devi. The Chairperson Professor Ranjana Ray also delivered her lecture on women empowerment; Amita Bhattacharya Ghosal, Assistant Librarian of the Society, recited her poems on women position. Dr. Debasree Chowdhury, Research Fellow of the Society, shared her unique insights on Kalyani—a Progressive Woman from 'Aparichita' by Rabindranath Tagore; Ms. Swarnali Pal, a staff member of Accounts Section of The Asiatic Society, presented her distinct views on authoritative women characters in Sarat Chandra Chattopadhya's literature; Ms. Sagarika Sur, another staff member of Publication Department of the Society, shared her views on Ashapurna Devi's famous trilogy. Keka Adhikari Banerjee, Curator of the Society recited a poem of Nazrul Islam. The same participants mediated the next technical session with a chorus song –'Amar mukti aloy aloy'.

The theme of the second technical session was 'Women in Historical Discourse'. Dr. Saheli Das Sarkar, Post-Doctoral Research Fellow of the Society, discussed the contribution of Gautam Buddha's views on women's freedom and empowerment; Sneha Agarwala Sarkar, Research Fellow of the Society, talked on Rajnarayan Basu's interpretation of women in the context of 19th century's renaissance.

The topic of the third technical session was 'Women'. This was chaired by the dignitaries of The Asiatic Society, namely Professor Basudeb Barman, Vice-President of the Society, Dr. Satyabrata Chakrabarti; Professor Asok Kanti Sanyal, Biological Science Secretary of the Society; and Shri Shyam Sundar Bhattacharya, Philological Secretary of the Society. They delivered their valuable views on women empowerment in the Indian context.

L to R : Professor Chandramalli Sengupta, Ms. Dipali Das, Professor Ranjana Ray, Professor Tapati Mukherjee and Smt. Sujata Mishra

Smt. Satarupa Banerjee, staff member of the Administration Section played the role of the anchor. The programme was co-ordinated by Dr. Shakti Mukherji, Research Officer-in-Charge of the Society. Professor Sujit Kumar Das, Treasurer, delivered the Vote of Thanks.

A Half-day Seminar to Observe the 150th Birth Anniversary of Dr. Upendranath Brahmachari

The Asiatic Society has organised a Half-day seminar on 28th May, 2024 at 02:30 p.m. at the Vidyasagar Hall of the Society to celebrate the 150th Birth Anniversary of Dr. Upendranath Brahmachari, an eminent Indian physician-cum-scientist widely revered for his significant contribution in the treatment of Kala-Azar (*Visceral Leishmaniasis*) and former President of the Society. The Inaugural Session of the programme commenced with the garlanding of the bust of Pandit Ishwar Chandra Vidyasagar by Professor Swapan Kumar Pramanick, President of the Society followed by garlanding of the portrait of Dr. Upendranath Brahmachari by Dr. Satyabrata Chakrabarti, General Secretary of the Society. Shri Amit Ghosh, an official of the Society gave a soulful Rabindra Sangeet rendition following which Dr. Satyabrata Chakrabarti delivered Welcome Address to the audience. Dr. Sankar Kumar Nath, Medical Science Secretary of the Society gave brief introductory remarks on the life and works of Dr. Upendranath Brahmachari following which Dr. Shakti Mukherji, Officer in-Charge of the Academic Section of the Society gave an engrossing speech on a piece of writing written by Dr. Kawna Chattopadhyay, granddaughter of Dr. Brahmachari. The Presidential Address was delivered by Professor Swapan Kumar Pramanick. The session concluded with a Vote of Thanks given by Professor Basudeb Barman, Vice-President of the Society.

The Technical Session of the programme began with the delivery of lecture by Professor Syamal Chakrabarti, Publication Secretary of the Society. The second lecture was delivered by Professor Chandrima Shaha, JC Bose Chair Distinguished Professor, National Academy of Sciences, Indian Institute of Chemical Biology (IICB), Kolkata. The third and concluding lecture was given by Professor Syamal Ray, Emeritus Scientist, IICB Kolkata.

L to R : Dr. Satyabrata Chakrabarti, Professor Swapan Kumar Pramanick, Dr. Sankar Kumar Nath and Dr. Kawna Chattopadhyay

টানা-পোড়েন – বাংলার তাঁতশিল্পের অতীত, বর্তমান ও ভবিষ্যৎ

সম্পাদক: সুজিত কুমার দাস

দি এশিয়াটিক সোসাইটি, ২০২৪, পৃ: ১৪৪

মূল্য: ৬০০ টাকা

অধ্যাপক সুজিত কুমার দাস সম্পাদিত *টানা-পোড়েন* বইটি একটি উল্লেখযোগ্য ও ব্যতিক্রমী প্রবন্ধসংকলন। বইটির মুখবন্ধে সোসাইটির সাধারণ সম্পাদক অধ্যাপক সত্যব্রত চক্রবর্তী জানিয়েছেন, এশিয়াটিক সোসাইটিতে ২০২২ সালের মার্চ মাসে সুজিতবাবুর পরিকল্পনায় তাঁত বিষয়ক একটি দুইদিনব্যাপী আলোচনাচক্র ও তাঁতবস্ত্রের প্রদর্শনীর আয়োজন করা হয়। আলোচনাচক্রের একটি প্রতিবেদনও পাওয়া যায় বইটিতে। সেই আলোচনাচক্রে পরিবেশিত প্রবন্ধগুলিকে নিয়ে, এবং কখনো বা সেগুলি পরিবর্তিত বা পরিবর্ধিত করে সম্পাদিত হয়েছে বর্তমান সংকলনটি। বইটির ভুমিকায় আলোচনাচক্রের প্রাক্‌পর্বের প্রস্তুতির একটা সুখপাঠ্য ও সরস বিবরণ দিয়েছেন সম্পাদক।

তাঁতশিল্পে 'টানা-পোড়েন' বলতে বুঝায় কাপড়ের লম্বা ও চওড়ার দিক। এই বইটিতে সংকলিত প্রবন্ধগুলির বিষয় মূলত হস্তচালিত বিভিন্ন তাঁতশিল্পের অতীত ঐতিহ্য ও তার অবক্ষয়ের ইতিহাস এবং বর্তমান সমস্যা থেকে বেরনোর সম্ভাব্য দিশানির্ণয়। বাংলার তাঁতশিল্পের আলোচনা কোনো বিচ্ছিন্ন বিষয় নয়, তাকে যথার্থভাবে অনুধাবন করতে হলে ভারতবর্ষের ইতিহাসের প্রেক্ষিতেই করা প্রয়োজন। সেখানে স্বাভাবিকভাবেই এসেছে ভারতের বস্ত্র ও বস্ত্রশিল্পের প্রাচীন ইতিহাসের অনুসন্ধান।এই বিষয়ে তিনটি প্রবন্ধ আছে। অধ্যাপিকা তপতী মুখোপাধ্যায় তাঁর 'তোমায় সাজাব যতনে' প্রবন্ধে জানিয়েছেন যে সিন্ধুসভ্যতার যুগে মেসোপটেমিয়ায় ভারতের কার্পাসতুলা পৌঁছেছিল। বৈদিকযুগে বয়নশিল্প সুপরিচিত ছিল। ঋগ্বেদের মন্ত্রে (৬.১২) তাঁতযন্ত্রের সুস্পষ্ট উল্লেখ ও বর্ণনা আছে। মহাকাব্যে সুবস্ত্রা, একবস্ত্রা, সুবসনা প্রভৃতি বিশেষণ পদ বয়নশিল্পের উপস্থিতি নিশ্চিতভবে প্রমাণ করে বলে লেখিকা মনে করেন। অর্থশাস্ত্রে সুত্রাধ্যক্ষ নামের এক আধিকারিকের উল্লেখ আছে যিনি রাজার বয়নশিল্প বিষয়ক দফতরটির দেখাশোনার দায়িত্বে নিযুক্ত থাকতেন। তিনি দক্ষ মানুষজনকে নিয়োগ করতেন ও সুতোর উচ্চ মানটি ধরে রাখার জন্য উপযুক্ত ব্যবস্থা নিতেন। এছাড়া বৌদ্ধ গ্রন্থ ও শিলালিপিতে তন্তুবায়শিল্পীদের সমবায় (guild)-এর উল্লেখ পাওয়া যায়। ডঃ বন্দনা মুখোপাধ্যায় বৌদ্ধযুগের বয়নশিল্পের বিষয়ে বিশেষ আলোকপাত করতে গিয়ে সাহিত্যের তথ্যকেই মূল উপজীব্য করেছেন। সেই সময় বিশেষ করে কাশী ও বারাণসীর রেশমবস্ত্র ছিল খুবই জনপ্রিয়। বৌদ্ধ ভিক্ষুরাও সুতো কাটতেন। বৌদ্ধ সাহিত্যে কাপড় তৈরির বিভিন্ন যন্ত্রের নাম পাওয়া যায়। অর্থাৎ বয়নশিল্পের সার্বিক চর্চার প্রমাণ পাওয়া যায় বৌদ্ধযুগে। শ্রীমতী স্নেহা আগরওয়ালার 'রেশম শিল্পীগোষ্ঠীর মান্দাসোর অভিলেখের আলোকে রেশমশিল্প ও রেশমশিল্পী' শীর্ষক প্রবন্ধে শোনান লাটদেশ অর্থাৎ মধ্য ও দক্ষিণ গুজরাট থেকে দশপুর অর্থাৎ বর্তমান মান্দাসোরে অভিবাসিত রেশমশিল্পীদের কথা। এই গোষ্ঠী বহু অর্থসম্পদ অর্জন করে পশ্চিমপুরে সূর্যদেবতার বিশাল প্রাসাদ

নির্মাণ করেছিলেন। লেখিকার মতে পাশ্চাত্যের সঙ্গে বাণিজ্যই ছিল এই সম্পদের উৎস। এইসব আলোচনা থেকে প্রমাণিত হয় বহু প্রাচীন কাল থেকেই ভারতে তাঁতশিল্পের গৌরবময় ঐতিহ্য ছিল এবং এই গরিমা মোগল ও বাংলার নবাবি আমল পর্যন্ত শাসককুলের আনকূল্যে আন্তর্জাতিক জনপ্রিয়তাও লাভ করেছিল। সম্রাট আকবর মসলিন উৎপাদনের বিষয়ে বিশেষ আগ্রহী ছিলেন। তাঁর পৃষ্ঠপোষকতায় ও তৎকালীন বাংলার শাসক ইব্রাহিম খাঁর তদারকিতে অনেকগুলি সরকারী কারখানাও তৈরি হয়।

এই দেশের তাঁতশিল্প কোনো বিশেষ অঞ্চলভিত্তিক ছিল না সামগ্রিকভাবে সারা দেশেই তার চর্চা হত। কাপড়ের প্রয়োজনেই তাঁতিরা বস্ত্র উৎপাদন করতেন। আর এই শিল্প ছিল পরিবারকেন্দ্রিক, সব সদস্যরাই এইকাজে অংশ গ্রহণ করতেন। মহিলারা ঘরের কাজের ফাঁকে সুতো কাটতেন। বংশানুক্রমে শিক্ষিত তাঁতিরা দক্ষ কারিগর হয়ে উঠতেন। মোগল সাম্রাজ্যের শেষ দিকে যখন অবক্ষয় শুরু হল তখন সম্রাটদের দুর্বলতার সুযোগে ব্রিটিশ ইস্ট ইন্ডিয়া কোম্পানি সম্রাট ফারুখশিয়ার কাছে বাংলাদেশে স্থায়ী বসবাস ও বিনাশুল্কে বাণিজ্যের অনুমতি লাভ করল বার্ষিক ৩০০০ টাকার বিনিময়ে। বাণিজ্যের সিংহভাগ পণ্য ছিল বস্ত্র। তখন ভারতীয় বস্ত্রের খুবই সমাদর ছিল ইংল্যান্ডে। ডঃ সুজিত দাস এই প্রাক্ উপনিবেশিক ও উপনিবেশিক সময়ের ইতিহাস বিস্তৃতভাবে তুলে ধরেন 'সমাজবিকাশে হস্ততাঁত ও বস্ত্রশিল্পের ভূমিকাঃ প্রসঙ্গ ভারতবর্ষ' শীর্ষক নিবন্ধে। তিনি জানান ১৬৭০ থেকে ১৭০০ সাল পর্যন্ত এই বাণিজ্যের বেশ রমরমা ছিল। এই সময় প্রথম দাদন প্রথার প্রচলন হল। 'মহাজন', 'পাইকার', 'গোমস্তা'দের মাধ্যমে তাঁতিদের উৎপাদিত বস্ত্র পৌঁছে যেত কোম্পানির কাছে। কিন্তু অষ্টাদশ শতাব্দীর শুরুতে শিল্প বিপ্লব শুরু হওয়ার থেকেই অবস্থার পরিবর্তন শুরু হল। ইংল্যান্ডে উন্নতমানের যন্ত্রের সাহায্যে বস্ত্র উৎপাদনের পরিমাণ ও উৎকর্ষ বৃদ্ধি পেল। কিন্তু তাও ভারতীয় বস্ত্রের সঙ্গে উৎকর্ষের প্রতিযোগিতায় না পেরে ইংল্যান্ডে ভারতীয় বস্ত্রের আমদানির ওপর নিষেধাজ্ঞা জারি করা হল। একদিকে ভারতীয় বস্ত্রের ব্যবসায়ে সঙ্কোচনের ফলে তাঁতিদের জোর করে কম দামে বস্ত্র দিতে বাধ্য করতে লাগল ব্রিটিশ বণিকেরা। অপরদিকে হাতে কাটা সুতোর বদলে ইংল্যান্ডের মিলে তৈরি সস্তা সুতো ব্যবহার করতেও তাঁতিদের বাধ্য করা হল। অত্যাচারিত চাষিরা অনেকেই জীবিকা পরিত্যাগ করলেন। মিলে তৈরি সস্তার কাপড়ে বাজার ছেয়ে গেল আর সাধারণ মানুষও তাতে আকৃষ্ট হলেন। এই সঙ্গে বস্ত্রশিল্পের ইতিহাস আরও একটি নতুন বাঁক নিল। আমেরিকার গৃহযুদ্ধের সময় সেখান থেকে ইংল্যান্ডে তুলো আমদানি বন্ধ হওয়ায় ভারত থেকে বেশি দামে তুলো রপ্তানি শুরু হল। এই ব্যবসার সুত্রে বম্বের পার্শি ব্যবসায়ীরা ইংল্যান্ডের মিল মালিকদের সহায়তায় ভারতে বস্ত্রমিল স্থাপন করলেন। মিলে প্রস্তুত সস্তার কাপড়ে বাজার ছেয়ে গেল, তাঁতশিল্পের অবক্ষয়ের পথ আরও প্রশস্ত হল।

পরবর্তীকালে দেশভাগের পর বাংলার তাঁতশিল্প দুটি অঞ্চলে বিভক্ত হল, পশ্চিমবঙ্গ ও পুর্বপাকিস্তান (আজকের বাংলাদেশ)। পূর্ব পাকিস্তান থেকে তাঁত শিল্পীরা পরিকল্পিতভাবে পশ্চিমবঙ্গে অভিবাসনের সিদ্ধান্ত নিলেন। পশ্চিমবঙ্গে যে উল্লেখযোগ্য তাঁতশিল্পের কেন্দ্রগুলি আছে তাদের মধ্যে ফুলিয়া,সমুদ্রগড়, ধাত্রীগ্রাম ইত্যাদি কয়েকটি কেন্দ্র গড়ে উঠেছে উদ্বাস্তু তাঁতশিল্পীদের পুনর্বাসনের মাধ্যমে। শ্রী নিলয় কুমার বসাক, যিনি নিজেও এক তন্তুবায় পরিবারের সদস্য, ফুলিয়ায় পূর্ববঙ্গের তাঁতশিল্পীদের অভিবাসনের একটি তথ্যসমৃদ্ধ ও সংবেদনশীল বিবরণ দিয়েছেন তাঁর 'তাঁতশিল্পকেন্দ্র ফুলিয়া: তন্তুবায় সমাজের জ্ঞান, দক্ষতা ও পারস্পরিক বোঝাপড়ার ভিত্তিতে এক অভিবাসন তথা পুনর্বসতির ইতিহাস' নিবন্ধটিতে। টাঙ্গাইলের তন্তুবায়পল্লী থেকে আগত তাঁতিদের

নিয়ে ফুলিয়ার বর্তমান তাঁতকেন্দ্রটি গড়ে ওঠে প্রাথমিকভাবে তৎকালীন পশ্চিমবঙ্গ সরকারের উদ্যোগে ও কেন্দ্রীয় সরকারের সহায়তায়। টাঙ্গাইলের তাঁতিদের অপর এক গোষ্ঠী ধাত্রীগ্রামে পুনর্বসতি স্থাপন করে। তবে কোথাওই এই পুনর্বাসনের পথ খুব সুগম ছিলনা। একদিকে ছিল ভবিষ্যতের অনিশ্চয়তা, মহাজনদের শোষণ আর অন্যদিকে পশ্চিমবঙ্গের তাঁতশিল্পের সঙ্গে প্রতিযোগিতা। তবে ধীরে ধীরে ফুলিয়ার শাড়ি সারা বিশ্বে সমাদর লাভ করে। গবেষক ও লেখক শ্রী হরিপদ বসাক বলেন–

কৃত্তিবাসের ফুলিয়া জানে সর্বজন।
টাঙ্গাইলের শাড়ি তার গরবের ধন।।

শ্রী হরিপদ বসাক নিজে ফুলিয়ার একজন তন্তুবায়শিল্পী ও পুনর্বাসন প্রক্রিয়ায় সক্রিয়ভাবে যুক্ত ছিলেন। 'তাঁত: অতীত, বর্তমান, ভবিষ্যৎ' প্রবন্ধে তাঁতশিল্পের ইতিহাস আলোচনা প্রসঙ্গে তিনি খেদের সঙ্গে বলেন যন্ত্রদানবের দাপটে তাঁতিরা ভিটেমাটি থেকে উৎখাত হলেও আজও তাঁত চলছে। এই বঙ্গে বালুচরী, বেগমপুরী, ধনেখালি, টাঙ্গাইল কাপড় তৈরি হচ্ছে। কিন্তু তাঁতিরা শিক্ষা, স্বাস্থ্য, অর্থ- সব ক্ষেত্রেই অবহেলিত হয়ে প্রান্তিক অবস্থাতেই রয়ে গেছেন। অধ্যাপক দেবাশিস বন্দ্যোপাধ্যায় মনে করেন যে গত আড়াই থেকে ত্রিশ দশকের মধ্যে হস্তচালিত তাঁতশিল্পের ধ্বংস ঘটাল সরকারী নীতি, যন্ত্রচালিত উন্নত কারিগরী কৌশল, রুচির পরিবর্তন, দ্রব্যমূল্যবৃদ্ধি ও অতি সাম্প্রতিক কোভিদের মহামারী। 'বাংলার তাঁত- সেকাল একাল' প্রবন্ধে তিনি আক্ষেপ করেন যে বংশানুক্রমিক তাঁতশিল্পীরা তাঁত বন্ধ করে এখন অনেকেই রিক্সা চালক বা রাজমিস্ত্রীর মত জীবিকা বেছে নিতে বাধ্য হয়েছেন। অধ্যাপক শুভাশিস চক্রবর্তী 'বাংলার তাঁতশিল্পের পুনরুজ্জীবন' প্রবন্ধে তাঁতশিল্পের কিছু সমস্যার উল্লেখ করে সমাধানের দিশা দিয়েছেন, যেমন, বর্তমান তাঁতশিল্পীদের বংশানুক্রমিক বয়ন রীতির বাইরে আধুনিক ফ্যাশন টেকনলজির প্রশিক্ষণ নিতে হবে নিজেদের যুগোপযোগী করে তোলার জন্য। প্রয়োজনে এইসব প্রশিক্ষণ কেন্দ্রে তাঁতিদের জন্য আসন সংরক্ষণ করে অথবা তাদের সামর্থ্য উপযোগী বিকল্প প্রশিক্ষণকেন্দ্র গড়ে তাদের প্রশিক্ষিত করতে হবে। পুরানো ঐতিহ্য সংরক্ষণের সঙ্গে বাজারের রুচি ও চাহিদা অনুযায়ী কাজ শেখার ওপরও তিনি জোর দেন।

ধনেখালি শাড়ির বৈচিত্র ও খ্যাতি নিয়ে সংক্ষিপ্ত আলোচনা করেন শ্রী শৈলেন্দ্রনাথ কুণ্ডু 'ধনেখালির তাঁতশিল্পের বর্তমান অবস্থা' শীর্ষক নিবন্ধে। তিনি এক গুরুত্বপূর্ণ তথ্য জানান যে, এখানকার বেশির ভাগ শিল্পীই কোনো না কোনো সমবায় সমিতির সঙ্গে যুক্ত ও সমিতিগুলি থেকে বিভিন্নভাবে সাহায্যপ্রাপ্ত। বাঁকুড়ার মানুষ শ্রী রামকুমার মুখোপাধ্যায় তন্তুবায়পল্লীর অবক্ষয় দেখতে দেখতে বড় হয়েছেন যা তাঁকে গভীরভাবে স্পর্শ করেছিল আর তাঁকে অনুপ্রাণিত করেছিল তাঁদের জীবন নিয়ে সাহিত্য রচনায়। তাঁর লেখাটির নাম, 'মাকুচোর থেকে মেশিনচোর'। অধ্যাপক শিশির কুমার মজুমদার তাঁর নিবন্ধ 'ধোতকট থেকে ধোকরা- রাজবংশী মহিলাদের ঐতিহ্য পরম্পরা' লেখাটিতে জানিয়েছেন যে, পাটগাছ থেকে সুতো বার করে তা দিয়ে শতরঞ্চির মত মোটা চাদর বানানোর প্রাচীন ঐতিহ্য এখনও উত্তরবঙ্গে রাজবংশী মহিলাদের মধ্যে প্রচলিত আছে। গ্রাম্যভাষায় এই চাদরকে বলা হয় ধোকরা ঝালং বা বিছান। গ্রামের হাটে এই চাদর বিক্রি করে মহিলারা অর্থ উপার্জন করেন। প্রচারের অভাবে এই অসাধারণ শিল্প গ্রামের হাটের মধ্যেই সীমাবদ্ধ আছে।

'প্রসঙ্গ: বাঁকুড়ার তসর ও রেশম শিল্পের অতীত ও বর্তমান' প্রবন্ধে লেখিকা শ্রীমতী কেকা অধিকারী আলোচনা প্রসঙ্গে জানান যে বিষ্ণুপুর ও সোনামুখীর রেশম ও তসর শিল্প খুব প্রাচীন। এখানে উন্নতমানের সিল্কের উৎপাদনে ইস্ট ইন্ডিয়া কোম্পানি সহায়তা করেছিল। এক বিশেষ প্রকার

গুটিপোকা (B.Mori) থেকে বালুচরীর রেশম তৈরি হয়। এই গুটিপোকার চাষ শ্রমসাধ্য নয় কিন্তু লাভজনক। লেখিকার প্রস্তাব অধিক রেশম উৎপাদনের জন্য ও সার্বিকভাবে অর্থনৈতিক উন্নতির কথা মনে রেখে এই গুটিপোকার চাষের কাজে দুঃস্থ ও আদিবাসী জনগোষ্ঠীকে উৎসাহিত করা হোক। মুর্শিবাদের সিল্ক বাংলার আর এক সম্পদ। এই সিল্কের বর্তমান সংকট ও সম্ভাবনার আলোচনা করেছেন অধ্যাপিকা কাকলী ধারা মণ্ডল। সংকটগুলি হল রেশমপোকার মানের অবনমন, নগরায়নের ফলে রেশমচাষের জমির হ্রাস, নতুন প্রযুক্তির উদ্ভাবনের অভাব, মহাজনীপ্রথা ইত্যাদি। তবে তিনি আশাবাদী যে এই সংকট অদূর ভবিষ্যতে কেটে যাবে। অধ্যাপক চন্দন রায় মুর্শিদাবাদের হস্তচালিত রেশমশিল্পের অতীত, বর্তমান এবং ভবিষ্যৎ নিয়ে আলোচনা করতে গিয়ে বলেছেন যে, স্বাধীনতার পর দক্ষিণ ভারতের মাইসোরে রেশমশিল্প যেভাবে উন্নতি ও প্রসার লাভ করেছে পশ্চিমবঙ্গে তা হয়নি। অর্থনৈতিকভাবেও ছোট তাঁতিরা শোষিত হয়েছে মধ্যস্বত্বভোগীদের কাছে। তাঁরা কম দামে স্থানীয় ব্যবসায়ীদের কাছে পণ্য বিক্রি করতে বাধ্য হয়েছেন। তবে আশার কথা সম্প্রতি ডিজিটাল মার্কেটিং এর মাধ্যমে তাঁতিরা সরাসরি উপার্জন করতে সক্ষম হচ্ছেন।

অধ্যাপক সব্যসাচী চট্টোপাধ্যায়ের 'টানা-পোড়েন–এর ইতিহাসচর্চা' নামক রচনাটি গবেষকদের কাছে একটি মূল্যবান সংগ্রহ। কারণ এখানে ১৮৫১ থেকে ২০২২ পর্যন্ত বয়নশিল্প সংক্রান্ত প্রকাশিত গ্রন্থ ও প্রবন্ধের একটি তালিকা পাওয়া যায়।

শফিকুল কবীর চন্দন ঢাকার ভূমিপুত্র ও তাঁতশিল্পের এক 'সামান্য' কারিগর। ঢাকাই মসলিন নিয়ে তাঁর ক্ষোভ ও বেদনা উৎসারিত হয়েছে 'ঢাকাই বস্ত্র: শিল্প, সমকালীন বিতর্ক ও বাহাস' প্রবন্ধে। ব্রিটিশদের মিলে তৈরি সুতোয় যে সূক্ষ্ম মসলিন ঢাকায় উৎপাদিত হল তাকে 'ব্রিটিশ মসলিন' বলাই ভালো বলে তিনি মন্তব্য করেন। বাংলার ফুটি কার্পাস তুলোর সুতো দিয়ে তৈরি মসলিনের মান অনেক উন্নত ছিল। এই তুলোর উপযোগী স্থান ছিল নদী, জলাশয়, পুকুর, খাল, বিলে সমৃদ্ধ তৎকালীন ঢাকা, ধামরাই, সোনারগাঁ, কাপাসিয়া, জঙ্গলপুর ও বাজিতপুর। ফলে এই অঞ্চলগুলিতেই একসময় মসলিন কারিগরি শিল্পের বিস্তার ঘটে। লেখকের মতে মসলিন "কেবল পাতলা ফিনফিনে বস্ত্র মাত্র নয়। মসলিন বাংলার পরম্পরা বস্ত্র কারিগরি জ্ঞান সমষ্টির 'কারিগরি ইন্টেলেকচুয়ালিটি'..... আর তা ঠিকঠাক অর্জন করা দূরঅস্ত" (পৃ. ৭৭)। তাই তাঁর মতে মসলিনের পুনরুজ্জীবনের পরিবর্তে তাঁত, তাঁতির পরম্পরাগত কারিগরি দক্ষতার সংরক্ষণ অনেক জরুরি।

বইটির হাতে বোনা প্রচ্ছদটি দৃষ্টিনন্দন ও বিষয়ের সঙ্গে সঙ্গতিপূর্ণ। শিল্পী বুঁইচা, বসাকপাড়া ফুলিয়ার তাঁতি শ্রী তনয় বসাক।

টানা-পোড়েন–এর লেখক পরিচিতি থেকে দেখা যাচ্ছে যে নিবন্ধকারদের মধ্যে অধ্যাপক গবেষকদের সঙ্গে তাঁতশিল্পের সঙ্গে প্রত্যক্ষভাবে যুক্ত কিছু অভিজ্ঞ ব্যক্তিও আছেন। বিভিন্ন দৃষ্টিকোণ থেকে তাঁদের সকলের মূল্যবান চিন্তা,ভাবনা ও আলোচনা সংকলনটিকে ঋদ্ধ করেছে। নিঃসন্দেহে এই সংকলন গ্রন্থটি উৎসাহী পাঠক ও গবেষকদের সারস্বত সাধনায় সহায়ক হবে। তাঁতশিল্পের অনুরাগীরা আশা করবেন যে এই নিবন্ধকারদের চিন্তার আলোকে ও সরকারের সদিচ্ছাজনিত সঠিক নীতির প্রয়োগে দুই বাংলার তাঁত শিল্পের পরম্পরাগত ঐতিহ্য যথাযথ সংরক্ষিত ও পুনরুজ্জীবিত হবে।

দীধিতি বিশ্বাস
আজীবন সদস্য, দি এশিয়াটিক সোসাইটি

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294.592109
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793.30954
V455l

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809
S948t

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891.43
J42a

Jaysowal, Sanjaya;

Aṅgreji rāj aur Hindi sāhitya/by Sanjaya Jaysowal. —Kolkata : Ananda Prakashan, 2012.

280p: 22cm. **(H7352) (Dt. 22.03.24)**

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P297m

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Madanmohan Mālabiya : nabjāgaran kā lokvritta/Samir Kumar Pathak. —2nd rev. ed. —Delhi : Nayi Kitab Prakashan, 2021.

229p: 23cm. **(H7355) (Dt. 22.04.24)**

Alphabetical word index : p. 215-224

Alphabetical name index : p. 225-229

1st published : 2016

ISBN No. : 978-93-82821-71-7, Rs. 495.00

Hin
923.0954
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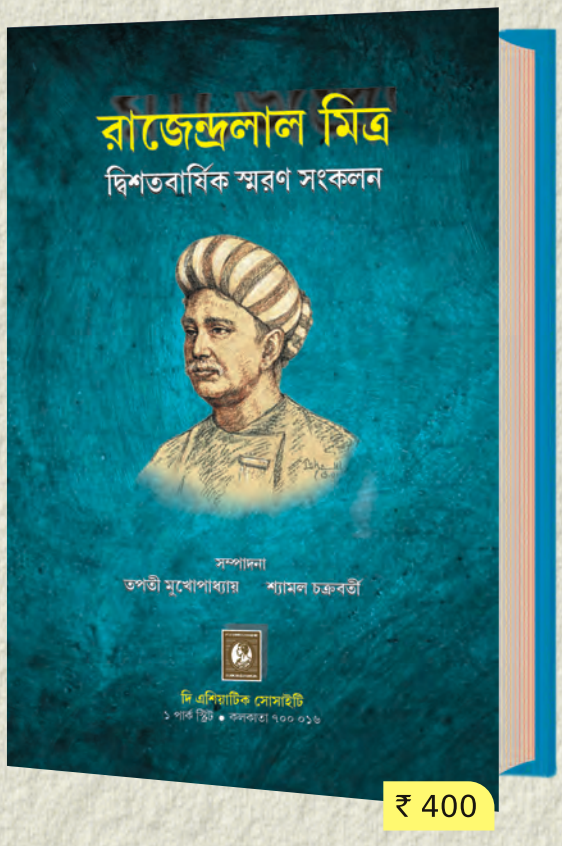

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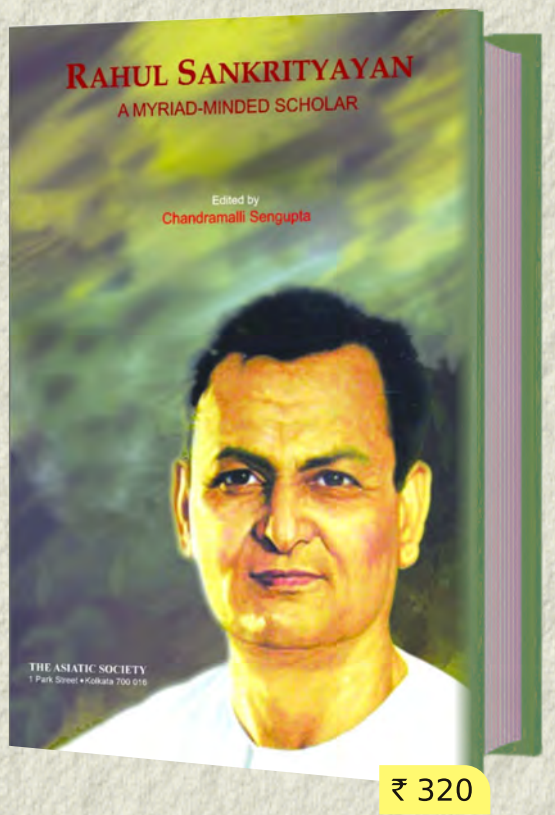

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