CHAPTER 5

Experiences of women in the core sciences, technical and medical education between 1947-74

This chapter will deal with the life and times of eminent women chemists, physicists, mathematicians, engineers and doctors who studied and pursued their professions in Calcutta roughly within the first three decades since independence. This chapter highlighting some biographies of eminent women belonging to the core sciences, medicine and engineering disciplines will mark a shift from the conventional tools that a researcher of history generally uses. As such oral sources which often help to probe into areas unreachable by the archival or literary sources have been widely used in this chapter.

The fact that this chapter delves into a period that is theoretically post-colonial raises some pertinent questions revolving round the people who were interviewed. The first, question would be what were the immediate concerns of the central and state governments in the post-independence period in India? Were the concerns of the government wedded to the political, economic and social needs of the Indian women? Or in the context of the newly evolving post-independence political structure whether the choice of women’s higher education and professions were still directed by the societal pressures; or whether its corollary, that is in a free and democratic India women could now determine their own choices held good.
Broadly speaking three parameters were used while interviewing these eminent career women, first they had to be women who had excelled in the areas which I have chosen to study. Secondly, since no work of history can be studied in isolation and since the existing social, political and economic context do influence the ethos of the institutions of higher learning and the work place,\(^1\) equations of those interviewed with their educational and professional institutions have also been analyzed to assess the changes that were taking place not only at the level of policy-making but also at the ground level, the level of mentalities. Thirdly, their backgrounds have also been discussed in order to assess the social composition and mentality of their families that were promoting their education. Along with this the reaction of the extended family and lastly the conjugal family, the family to which they were married, the role of the husband and the in-laws have also been analyzed. A majority of the women interviewed, were driven by a dominating ambition and desire to reach to the pinnacle in their education and professional careers surpassing all other odds that stood between their efforts, at a time when professions in the core sciences and technical education, although encouraged by the government were still expensive and jobs were not always available.

The first decade since independence, it may be safely argued was an era of flux. This was reflected in the diverse opinions of some of the national level leaders of

the time as to what should be the ideal role of the Indian woman. Thus in the
wake of the communal frenzy, the Prime Minister Pandit Jawaharlal Nehru
addressed the women of Bombay in a gathering and emphasized on the role that
they could play in society through their love, kindness and brotherhood.² The
then Congress president Dr. Rajendra Prasad harped on the revolutionary role
that women could play in the country’s political and social set up by educating
their children in the right direction. This may be said to be in line with the
traditional vision of the Indian woman as child-bearers. Their participation as
wage earners in the organized job sector was still not prioritized. The Deputy
Prime Minister Sardar Patel, however, was of the opinion that the eminence of a
few Indian women as legislators, ministers, governors or ambassadors did not
mean that all had progressed. Actually women in India were still backward.³
Sarojini Naidu, the then Governor of the United Provinces emphasized the need
of proper education to lead women in their onward march.⁴ As far as the choice
of the women interviewed is concerned, it is evident that higher education,
particularly in the period under review, was still the prerogative of the middle-
class, urban-educated intelligentsia in particular, most of the women interviewed
in this chapter incidentally belonged to families where either the father, or both
the parents were suitably employed. Even in the cases where the mother was

² The Amrita Bazar Patrika, Reel No.8, April 27th, 1948,p.1
³ Ibid, Reel No.11, Dec.7th, 1948,p. 5
⁴ Ibid
not employed, then certainly she was well-versed in several subjects. This did actually serve to inculcate the good habits of reading and writing as had been the case of Bani Talapatra, neé Chaudhuri who accomplished herself in the subject of Pure Chemistry.\(^5\) This chapter would thus serve as a link between the colonial period and the more contemporary times. With a view to making a comparative study of women in science in India particularly in Calcutta with that of the western world, I have cited the conditions of women in science in America and Europe as references. That the man-woman asymmetry is a social construct and that it has been reinforced by the artificial dichotomisation into a male sphere of the public and a female sphere of the domestic domain has been time and again proved by those who have been interviewed. \(^6\) That this anachronistic idea, is also a myth of sorts have been evident in the interviews with the eminent women personalities in the diverse fields of the core sciences, technical and medical professions. As the eminent lady physician and administrator Dr. Sm. Jayasri Mitra succinctly puts in her interview, time and again women had stood the test of merit successfully. They had in more instances than one topped the list of successful candidates, be it in the core sciences like mathematics, physics and chemistry as well as in medical and technical education. \(^7\) Thus to name a few Sm. Mira Duttagupta stood second in the order of merit in the First Class in

\(^5\) Interview of Professor Bani Talapatra by the researcher on 05.03.2016, Calcutta


\(^7\) Interview with Dr. Jayasri Mitra Ghosh dtd.30.03.2016, Calcutta
Pure Mathematics in the M.A. Examination of the University of Calcutta in 1930, had obtained the University Silver Medal and the University Prize. The Jogomaya Devi Gold Medal and the Sir Gooroodas Banerjee prize for topping at the post-graduate level in science was awarded to Dolly S. Handa of the batch of 1941-42. The Roma Gold Medal was awarded to Purnima Chattopadhyay of the Calcutta Medical college on the results of the Final M.B. Examination for 1946 held in May 1946 and January 1947. Bani Chaudhuri of the batch of 1941-42 of the same college was awarded the above prestigious prize in the final M.B. Examination in May 1949.

Manisha Basu earned the Woodrow Scholarship, the Benimadhab Silver Medal and the Rai Amritanath Mitra Bahadur Prize from Presidency College for being the best under-graduate student from the sciences in the B.Sc. examination of the University of Calcutta. Sobhana Dhar was another meritorious student of Physics who passed with First Class in 1947 and was selected for the Premchand Roychand Studentship in science for the year 1951. Sm. Lilabati Ray was recommended by the doyen of physicists Professor S.N. Bose for the prestigious

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8 Minutes of the Syndicate, University of Calcutta, No.2, 6th March 1950, p.53
9 Minutes of the Syndicate, University of Calcutta, No.5, 27th Jan., 1948, p.921
10 Ibid
11 Ibid
12 Minutes of the Syndicate, University of Calcutta No. 3, 1951, p.245
13 Minutes of the Syndicate, University of Calcutta 1952, No.7, p.576
Khaira research scholarship in Pure Physics in 1952. Archana Mukhopadhyay was awarded the Jogomaya Debi Gold Medal for topping the M.Sc. examination in science at the University of Calcutta. Rekha Deb of Presidency College was awarded the Basanti Das Gold medal for standing first among the first class Honours candidates in B.Sc. of the batch of 1949-50. Manisha Basu of the Chemistry department of the University College of Science was awarded the D.Phil in the subject in 1954. Krishna Sen of Nilratan Sircar Medical College of the batch of 1947-48 stood first in Forensic Medicine and was awarded the Dr. Rai Debendranath Ray Bahadur Gold Medal at the final M.B.B.S. examination.

On the results of the M.A. and M.Sc. examination, Tuhina Ghosh was awarded the best university student at the post-graduate level in science. Mina Majumdar was awarded the University Gold Medal in Anatomy, Rai Dr. Soorjee Coomar Sarbadhikari Bahadur Silver Medal, Rai Bahadur Dr. Chunilal Bose Memorial Silver Medal and prize for Chemistry, Bipasbehari Sarkar Memorial Scholarship, Manackjee Rustomjee Scholarship, Nandalal Gooptu Scholarship. Radha Dutta Ray and Manasija Sarkar were awarded the Roma Gold Medal and

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14 Minutes of the Syndicate, University of Calcutta, 1952, PT III, p.119
15 Minutes of the Syndicate, University of Calcutta, 1952, No. 5, p. 983
16 Minutes of the Syndicate, University of Calcutta, 1954, Pt II, p. 16
17 Minutes, the Syndicate, University of Calcutta, 1954, Pt II, p.401
18 Ibid, p.602
19 Minutes of the Syndicate, University of Calcutta, 1954, p.25
20 Minutes of the Syndicate, University of Calcutta, 1956, No.3, p.90
the S.K. Mukherjee Silver Medal and the Dr. Baradakanta Ophthalmic Prize on the basis of the final M.B.B.S. examinations in 1955.\textsuperscript{21} Keya Basu was awarded the Sibapriya Chatterjee Memorial Medal of the Jadavpur University for standing first in Physics at the B.Sc. examination; while the S.N.Bose 70\textsuperscript{th} Birth Anniversary commemoration medal for standing first in Physics at the Master of Science examination was awarded to Jayati Sen for the year 1973-74. Alakananda Bhattacharya received the University medal for standing first in Chemistry at the B.Sc. examination of the same university.\textsuperscript{22} For the same period, Alakananda Mukhopadhyay obtained a First class in Chemical Engineering and also in the Master of Engineering examination of 1972. In the same year Jaya Pathak got a First Class in Chemical engineering at the Bachelor of Engineering examination of the University. There were also other women who were graduating in the second class in the same branch of engineering that year\textsuperscript{23}. Jayati Sen topped the M.Sc. examination in Physics of the same year.\textsuperscript{24} Santa Basu stood First in First class in the Mathematics B.Sc. Honours examination of 1972.\textsuperscript{25} Thus the trend started by the illustrious predecessors in the colonial period continued even in the post-colonial period but as Dr. Jayasri Mitra pointed out that till date it is academics that most women prefer, be it in

\textsuperscript{21} Minutes of the Syndicate, University of Calcutta, 1956, No. 16, p.273

\textsuperscript{22} Jadavpur University ,Annual Report, 1972-73, pp.113-116

\textsuperscript{23} Jadavpur University ,Annual Report, 1972-73, pp.130

\textsuperscript{24} Ibid, p.131

\textsuperscript{25} Jadavpur University ,Annual Report, 1972-73, pp.138
the field of the pure science, medicine, the more demanding and highly paid corporate jobs and private practice are still given a second thought post-marriage by the women.  

Few people know about them or have cared to document their achievements in an era when the fledgling nation was trying to make its presence felt in the global community, when newly found and propounded principles of democracy were being put into practice, when the Indian woman was given the right to adult franchise and other constitutional rights that were putting her at par with the Indian men in terms of educational, political, religious and other rights, if not always practically, but definitely theoretically.

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26 Interview of Dr. Jayasri Mitra by the researcher, dated.30.03.2016, Calcutta
Women scientists in the post-colonial period:

5.1 WOMEN IN PURE CHEMISTRY:

Dr Asima Chatterjee

In the days of transition from a colonial to a post-colonial India, when the country was at cross-roads, one can situate the life and times of India’s and Bengals’ first Bio-Chemist Asima Chatterjee. Those were the days when daughters were encouraged to become doctors, teachers or lawyers. Social service to the nation was demanded of them in the form of social welfare work among the poor, destitute, villagers and the backward classes of society. There was a preconceived notion that women were suited to these types of work as a result of their soft and caring nature. This was manifest in the meetings and numerous speeches by national leaders including Gandhi.\(^{27}\)

In view of the bloodshed following the Calcutta killings of 1946, he directed the women folk to take up the cause of social welfare among the rural masses. Other Congressmen and even female leaders defined such roles for women that catered to the idea that women were not to be the destiny makers of India but rather they should confine themselves to such roles that conformed to the set roles of social rehabilitation in the riot-stricken, drought prone or flood-damaged areas across the country.

\(^{27}\) Gandhi’s Address the Gathering at Chandipur in The Amrita Bazar Patrika, Calcutta, Reel No.3, January 5\(^{th}\), 1947 p.1
Threads of discontinuity were, however, discernible. Undeterred by the familial obstacles and the pressures of a conservative society in transition, Asima Mukerjee, later Chatterjee by marriage, overcame the hurdles that stood before her. Born to parents Dr. Indranarayan Mukherjee and Sm. Kamala Devi in 1917 in Calcutta, Asima was admitted to the Scottish Church College for her graduation in Chemistry Honours in 1936. Scottish Church being a co-educational college she was advised not to join it by the senior male members of her ancestral joint family, but her mother supported her decision and spoke on her behalf to the other male members in the family. In this way the young Asima entered the portals of not only a co-educational college but also a discipline in which so far no woman had made her mark.

She stood first in her under-graduate course and was awarded the Basanti Das Gold Medal, the first in the series of the numerous medals and awards she was to receive nationally and internationally thereafter. She became the only woman student in the Chemistry Department of the college at that time to complete higher education. Being an alumnus of the Bethune college till 1934, she thus was able to fulfil the dream of many her seniors like Sarala and Abala Das who clamoured for the introduction of core science subjects at the Bethune college but were turned down by the Inspector of the Colleges on grounds that it did not have the necessary infrastructure needed to start such courses.

28 Interview of Dr. Julie Banerjee by the researcher, dated 13.07.12, Calcutta

During her post-graduate studies at the University of Calcutta she came into close contact with the doyens of Indian science such as Acharya Prafulla Chandra Ray, the savant, nationalist and founder of the Bengal Chemicals and Pharmaceuticals Works, Professors Prafulla Chandra Mitter, Pulin Behari Sarkar, Jogendra Chandra Bardhan and Dr. Prafulla Kumar Bose who later on joined the Bose Institute as Professor and Head of the Department of Chemistry. To a very great extent these luminaries of science influenced the field of research of the budding scientist Asima. Thus Acharya Ray’s great discoveries and experimentations with Indian herbs and plants led the young Asima to explore this territory and bring about a sea-change in the manufacture of several medicinal drugs and pharmaceuticals, the patent of which she held for long and by means of which she was able to palliate the pain and sufferings of the millions of Indians. This shift from being a Chemist to a Bio-Chemist was also largely a product of the influence of her grandmother who through the numerous sojourns in the countryside had instilled in the young Asima the medicinal properties of the different herbs and plants that could be found.

She obtained her M.Sc. degree in 1938 with Organic Chemistry as special paper and received the Silver medal and prize of the University of Calcutta Jogomaya Devi Gold Medal and started her research under the able guidance of Dr. Prafulla Bose, one of the pioneers in the field of natural product Chemistry at that time in India. Acharya Prafulla Chandra Ray created a fellowship of Rs. 75 per month in support of Asima for a period of one year out of his salary that he had previously
made over to the University of Calcutta for this purpose. This financial help offered from 1 January 1939 was meant to enable Asima to continue her investigation on ‘Chemical Investigation of Indian Medicinal Plants’. She had already prepared two papers by then. One of these papers had been published in Brichte der deutssche Chemische Geselleschaft, while the other paper had been communicated to the Indian Journal of Physics for publication. Given the outstanding work that she was pursuing and that too in a hitherto ‘male domain’ of the core sciences was appreciated by the academicians; and her scholarship which was supposed to have lapsed by 31 December 1939, had been renewed for a further period of one year starting from 1 January 1940. The same year she received the Nagarjuna Prize and Gold medal of the University of Calcutta for the best research work carried out in the Department of Chemistry, the Premchand Roychand Studentship in 1942, the Mouat Gold Medal and the D.Sc. degree of the University of Calcutta in 1944 on the merit of her research contributions on Naturally Occurring Indole Alkaloids and Coumarins. She also became the first lady to obtain the D.Sc degree of any Indian University. Thus for the first time breaking the discriminatory social barriers a woman had made her mark in the domain of pure sciences such as Chemistry, which so long had been the sole preserve of men. In this the unflagging support of patriarchy

30 Minutes of the Syndicate University of Calcutta, Part V,1939 ,pp.13-14
31 Minutes of the Syndicate University of Calcutta, Part V,1939 ,pp.13-14
was with her. Asima Chatterjee’s achievements stand out for more reasons than one. She worked as a young scientist in the laboratory of the University College of Science until the wee hours in the morning. Going by the accounts as narrated by her daughter, an eminent scientist in her own right, Professor Julie Banerjee, those were politically very turbulent years as the upheaval of the second World War was followed by the Quit India movement, the Noakhali riots and the Calcutta killings of the years just before and after partition. These moments of uncertainty did not deter the young Asima from dauntlessly pursuing her research. She would often be escorted by her father to the University campus and impressed by her sheer devotion and commitment to work Acharya Prafulla Chandra Ray along with her supervisor Dr. Prafulla Kumar Bose would take care of her and often provide her with frugal refreshments.

A life was thus given to selfless pursuit of work and that this illustrious student should not forego her research career was ensured by P.C.Ray who saw to it that even after she joined Lady Brabourne College as a Lecturer, all support to her was provided so that she could continue her research work in the premises of the Science college.

Her contribution to the pharmaceutical industry and the conservation of biodiversity continued even into the post-colonial period. Among her several accomplishments was her attempt to revive the age-old system of Ayurvedic

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33 Interview of Professor Julie Banerjee by the Researcher, dtd. 13.07.2012, Calcutta
medicine in India. She strove to achieve the standardization of drugs. She discovered anti-malarial and anti-convulsion medicines also.  

Apart from an illustrious academic career in the University College of Science where she was conferred the prestigious chair of Khaira Professor of Chemistry, Dr. Chatterjee was also chosen as the Honorary Programme Coordinator of the University Grants Commission for intensifying teaching and research on Natural Products Chemistry. She held the post of Khaira Professorship from 1962 till her retirement in 1982. She was also elected General President of the Indian Science Congress Association for 1974-75, once again, the first woman to be so.  

She achieved fame and recognition world-wide, acting as the Chairperson of several UNESCO Symposia and visited several universities of the world. She was bestowed with several awards and honours at the state, national and international levels and was nominated a Member of Parliament in the Rajya Sabha by the President of India as a Scientist-Academician between February 1982 and 1984, and for a second term from May 1984 to 1990.  

At a time when government policies still mirrored the social conservative mentality of the times, focusing on separate curricula for boys and girls to prepare the latter for a life of domesticity as was evident from the report of the  

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Secondary Education Commission of 1952-1953, Asima Chatterjee scaled these barriers and charted a hitherto untrodden path when she chose to be different by choosing Chemistry, a pure science subject which had no women-takers before her. She rued the fact in a subsequent interview that unlike research scholars of her days, thereafter monetary returns became a priority for the students and the number of research scholars dwindled, most of them having shifted from academics to join lucrative jobs.  

**WOMEN IN PURE CHEMISTRY:**

**Professor Dr. Bani Talapatra neé Chaudhuri**

Having set the bar for women students aspiring to pursue higher education, Asima Chatterjee opened the path for other meritorious students to follow in her footsteps. Anima Chaudhuri was the first female student to pursue research under her in Pure Chemistry. She was followed by Bani Talapatra who also had a chequered career in academics and in the discipline of Pure Chemistry. Her research supervisor was Asima Chatterjee and she was inspired by her dedication to hard work and high quality research. It is one of the many wonders to hear from the horses’ mouth how Asima Chatterjee the teacher, mentor and supervisor fared amongst her students, the earliest being Bani Talapatra.

In several short anecdotes, Bani referred to the multi-faceted persona of her teacher-mentor who also happened to be the inspiration of her life. Asima

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37 Asima Chatterjee’s interview to Arup Ratan Bhattacharya in ‘Shakhatkar’, Calcutta, p.53
Chatterjee as we all know was a strict disciplinarian when it came to matters of work but there was also a softer side to her character. Though she was a hard task master, she would never fail to enquire after her students whether they had eaten or taken their tiffin while laboring for hours in the laboratory. But at the same time she could be overwhelmed with emotion at certain times. This was manifest in the case of Aparna, a bright student of Chemistry from the North-East. She was engrossed in her laboratory experiments when accidentally fire broke out and the girl could not be saved from the ravaging fire. Bani Talapatra recounted that the steel persona of Asima Chatterjee melted and she was seen visibly and helplessly crying over the sad incident that wiped out the life of one of her promising students.

Bani Talapatra né Chaudhuri was born in the Pabna district in East Bengal ,now Bangladesh. She was born in 1937 and was brought up in Calcutta, now Kolkata. She had three sisters, none surviving and one brother settled in the U.S.A. She passed the Matriculation Examination from Beltala Girls’ School in Calcutta in 1951 and obtained her I.Sc. certificate from Lady Brabourne College in 1953. But in all matters men’s and women’s education was not envisaged to be identical as was evident from the speeches of some contemporary leaders of the time.\(^{38}\) A conservative tone persisted among the leading politicians of the time. Thus while

\(^{38}\) Dr. Syama Prasad Mookherjee, University Education The Amrita Bazar Patrika, 25 Oct. 1949,p.7
equal rights for women were being advocated at that time, Sita as the ideal epitome of womanhood was still idolized.\textsuperscript{39}

In the Convocation ceremony of the University of Calcutta for the year 1954, a considerable number of women, around 840 out of 4,500 students, attended to receive their degrees, medals and prizes from the Vice-Chancellor. Among them were Dr. Debi Chakraborti and Sobhana Dhar who received the Mouat Gold Medal for their work in science.\textsuperscript{40}

Bani Chaudhuri obtained her B.Sc. degree with Chemistry Honours from Scottish Church College in 1955 and received the Krishnalal De Gold medal for topping the list of successful science candidates of that college in that year. She obtained her M.Sc. degree in Chemistry with specialization in Organic Chemistry from Rajabazar Science College, Calcutta University in 1957. In her M.Sc. classes there were only two other female students out of a batch of 31 students. Subsequently, however, there were ten girl students from the next batch and the total intake increased gradually in the subject and by 1967 hundred students were admitted in the first year post-graduate classes out of which 91 students passed in 1969. The post-graduate theoretical classes in Chemistry of the Presidency College used to be conducted jointly with the University College of Science since its establishment in 1916 and joint theoretical classes continued till

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\textsuperscript{39} Dr. Katju, the Governor of Bengal at the Foundation Day speech of the Lady Brabourne College in The Amrita Bazar Patrika, 26 August 1950, p. 5

\textsuperscript{40} The Statesman, Calcutta, 23 January 1956, p.1
2006. Bani Talapatra started her teaching career in Victoria Institution (College), one of the oldest undergraduate colleges for women in Kolkata established in 1932. She joined Victoria Institution as a Demonstrator in the Chemistry Department in 1956, and as a Lecturer in Chemistry in early 1958. Soon after obtaining the M.Sc degree she started doing research in the laboratory of Prof. Asima Chatterjee, Calcutta University, in Rajabazar Science College. She did research almost as a full-timer, since both her residence and Victoria Institution were within walking distance from the Science College. After more than five years of dedicated research she earned the distinction of becoming the second woman D.Sc. of the University of Calcutta in 1962, the first one being her mentor, Professor Asima Chatterjee who earned the same distinction in 1945. Her impression about Professor Asima Chatterjee, India’s first woman and foremost scientist is that although a stern disciplinarian, she was an affectionate woman. The softer side of her personality was well brought out during the unfortunate incident of Aparna, a research mate of Bani who had succumbed to a laboratory fire while engrossed in her research work.41

Bani recounted that her mother, was a voracious reader of Bengali literature. Thus right from her childhood days she was encouraged to read Bengali literature, especially books on nationalism, in addition to her school and college studies. Her mother’s influence on her nature and character was tremendous. She was offered the Smith-Mund Scholarship by USEFI and also a Post-doctoral

41 Interview of Dr. Bani Talapatra, by the researcher dated 05.03.2016, Calcutta
Fellowship at the Vanderbilt University, Nashville, Tennessee, USA in 1963 by a renowned microbiologist, Professor Victor Najjar, and she accepted the latter offer. In 1964 she got married in Columbus, Ohio to her senior research mate in Dr. Asima Chatterjee’s laboratory, Dr. Sunil Kumar Talapatra, then a Faculty Member of the Chemistry Department, Ohio State University, Columbus. During their return journey they visited London, Oxford, Cambridge, Paris, Amsterdam, Brussels, Heidelberg, Milano, Venice, Rome, Naples, Pompeii, Athens, Cairo and Bombay. On her return she re-joined Victoria Institution in 1965. She was selected Lecturer in Chemistry, at Calcutta University in 1968, became Reader in 1976, and Professor in 1983.42

The 135 and odd published research papers that she has to her credit in reputed refereed journals in India and overseas tell us of the fact that she must have been a prolific researcher. She guided fifteen Ph.D. candidates of the Calcutta University and co-guided with her husband more than two dozen of pre-doctoral candidates and more than one dozen post-doctoral researchers. She received the Premchand Roychand Scholarship (PRS) of the Calcutta University for the best piece of research of that year.

As a UNESCO Senior Visiting Scientist in 1976 and 1983 she visited Universities of Stirling, Glasgow, Manchester, Cardiff, Columbia University New York, MIT Cambridge, UC Berkeley, UC Davis, Universities of Florida, Stuttgart, Berlin, Munich, Hanover, Tokyo, and Sendai where she was associated with many top-

42 Interview of Dr. Bani Talapatra, by the researcher dated 05.03.2016, Calcutta
ranking scientists, and lectured on her research contributions. She participated in more than fifteen International Conferences in various capacities as speaker, chairman, paper-presenter held in Chicago, the Hague, Amsterdam, Bangkok, Hanoi, Singapore, Bandung, and in many research institutes and universities of India, in addition to more than 30 national symposia.

Her fields of research are chemistry in all aspects of new plant-derived natural products of different classes (about one hundred), discovered by her from Indian medicinal plants, studies in reaction mechanism and synthetic methods.

An outstanding text-cum-reference book entitled ‘Chemistry of Plant Natural Products Stereochemistry, Conformation, Synthesis, Biology, and Medicine’ published by Springer Verlag Berlin Heidelberg in March 2015 in two volumes, has been co-authored by her along with her husband. This book which has a copy almost in all the major libraries of most advanced countries in the world including the countries of the Indian subcontinent, not to mention its e-version shares a worldwide citation index as well – a fact that amply qualifies the value of its academic worth. 43

Allaying notions of gender discrimination in the science laboratories, Bani Talapatra fondly remembers that her male batch mates were affectionate and cooperative. It is true that those were times when not many girls would opt for careers in science education and research. As a result, during Bani’s studentship, there was no lady teacher in the Chemistry Faculty either at the under-graduate

43 Interview of Dr. Bani Talapatra by the researcher dated.05.03.2016, Calcutta
and post-graduate levels other than Professor Asima Chatterjee. Later on, when she joined academics, there were only a few lady Chemistry teachers at the undergraduate level in the Colleges affiliated to the University of Calcutta.

Bani Talapatra served the Indian Chemical Society (established in 1924 with Sir P. C. Ray as its Founder-President) as a Council Member (6 years) and an Associate Editor (4 years) – being elected by the Fellows (more than 2000) of the Society (by postal ballots). Being elected by the Council Members of the Society she acted as the Scientist-In-Charge of the Organic Chemistry and Biochemistry Section of three Annual Conventions of Chemists organized by the Indian Chemical Society, held on 15-18 November 2000 at Gurukula Kangra University, Hardwar, on 26-29 December 2001 at J.N.V.University, Jodhpur, and on 22-26 December at Nagarjuna University, Nagarjunanagar. Presently, she is a Council Member of the Indian Science News Association, Kolkata (ISNA), established in 1935 with Sir P. C. Ray as its Founder-President. Ever vigilant Bani Talapatra is now planning to hold a National Symposium on Women Empowerment under the auspices of ISNA, in early 2017.

Explaining the reasons as to why she chose teaching with research facility as her profession, she candidly stated that teaching and scientific research were her passions, and accordingly she took her own decisions; herein remained her ultimate wish fulfillment. Most of her batch mates (23 out of 31) joined research or teaching in Research Institutes, Universities and Colleges.
Travelling is also a passion for her. In addition to visiting numerous places for research and academic assignments, she has visited many interesting places of tourist attraction in India and abroad.

Bani Talapatra does not dismiss the fact that women pursuing careers in science face more challenges of managing the home and hearth also. A voracious reader of Bengali and English literature, Bani also enjoys womanly pursuits such as cooking, sewing, knitting, painting, and making picture word books for children. She trusts that women would be successful by dint of their qualities of sincerity, discipline and organizational skills. She also is of the opinion that women do not need reservations in education or careers. Many of them have the ability to achieve what they want by virtue of their own merit and perseverance. A supportive conjugal family like hers is, however, necessary for a woman to perform her dual responsibilities, at the work place and the family.

WOMEN IN PURE CHEMISTRY:

Professor Dr. Julie Banerjee

Born just a year before India’s independence, that is, in 1946, Asima Chatterjee’s daughter Professor Julie Banerjee too has made her mark as an outstanding chemist in her own way. Since both her parents were from a science background, it helped her to choose science as her destiny in a period when the social conservative mentality still preferred science for boys and not girls. Educated in a convent and having graduated from Presidency College, Calcutta,
she completed her Masters in Organic Chemistry from the University of Calcutta in 1968. At that time only three female students studied Chemistry in a class of twenty-three students in the under-graduate course. There was, however, no female teacher in the faculty at that time. By the time Julie stepped into her post-graduate studies, i.e. 1966-1968 the University had already opened its doors to female teachers. Julie thus had the good fortune of studying under two female professors at the post-graduate level.44

Academically distinguished, she chose teaching as her future calling, both her parents being in the academic profession. Her mother was her role model. Even Julie’s father acknowledged Ashima’s presence in the family and respected his spouse as an extraordinary woman. It is interesting to note a similarity in the working conditions of the mother and daughter—although separated by a span of several decades. When Ashima Chatterjee worked unfailingly at her laboratory in the Rajabazar Science College in Calcutta, political turbulence of the late 1930s coupled with the post World War II years, the bloodshed following the Calcutta killings of 1946 created an atmosphere of political and social unrest in the city. The same was true in the 1970’s as well when as a result of the war for liberation of Bangladesh, research scholars like Julie Banerjee had to work under curfew conditions in the city of Calcutta.

44 Interview of Dr. Julie Banerjee by the researcher, dt.13.07.2012, Calcutta
Julie completed her Ph.D. in 1972 and subsequently her post-doctoral from the University of East Anglia under the supervision of Professor Alan Roy Katritzky. She has the distinction of becoming the Fellow of the Royal Society in 1973-1974.\(^{45}\) She joined teaching at the University of Calcutta on 31 January 1978 and subsequently became the Departmental head. Till her retirement, she continued to be a pillar of support to innumerable students and scholars of Chemistry, especially Organic Chemistry following the footsteps of her mother. Like her illustrious mother she also held the Khaira Chair in Chemistry, the highest chair in the department conferred by the University of Calcutta. Even today one can find her working in the very same laboratory, where her mother had worked, with her husband Dr. Avijit Banerjee, former head of the Department of Chemistry, by her side.

Both mother and daughter shared a deep sense of religiosity, not perhaps in keeping with their scientific mentality. An ardent admirer of Sri Ramkrishna Paramhansa and Swami Vivekananda, Asima Chatterjee believed in the presence of an omniscient force that helps us to move ahead in life. A path breaker in her time, her daughter upheld her tradition and served as a link between the colonial and post-colonial era as far as higher education and professions of women in science in Bengal is concerned.

\(^{45}\) Interview of Dr. Julie Banerjee by the researcher, dated 13.07.2012, Calcutta
5.2 WOMEN IN PURE PHYSICS:

Professor Dr. Papia Nandy

An interview with Dr. Papia Nandy unraveled an interesting education and career graph, where she distinguished herself as a woman from Calcutta who stood first in many stages of her academic pursuits. She was born in a well-educated middle-class family of East Bengal hailing from Dacca, now in Bangladesh. She was the second in a family of three daughters who had charted out independent careers for themselves in the sciences in the 1950s and 60s, at a time when fewer women took to careers and still fewer pursued so in the sciences which was considered to be the ‘male domain.’ Her eldest sister, eight years her senior, pursued a path which was well-tread by that time and that was the field of medical education. She later became the Director Post Graduate Institute of Medical Education and Research, Kolkata. The youngest sibling retired as a Professor in the Department of Pharmaceutical Technology of Jadavpur University. Papiya Nandy pursued a career in the basic sciences and chose physics as her subject; a subject she loved and still does from the time she was first introduced to it.46

A scientific background already existed in the family as her father was an agricultural scientist and as both her parents were working, the question of sending their daughters for higher education or to let them pursue careers of

46 Interview of Dr. Papia Nandy, by the researcher dated 25.07.2012, Calcutta
their choice never became an issue of discussion within the family. Papiya Nandy completed her education up to the Masters level from educational institutions in Calcutta. She did her schooling from Kamala Girls’ School, her collegiate education was from Jogomaya Devi College, her post-graduation was from the University of Calcutta and her Post-M.Sc. from Saha Institute of Nuclear Physics. Considering the fact that it was the late 1950s and early 1960s, this would have been significant as far as the higher education of women was concerned. But Dr. Nandy did not stop at that and went on to obtain her M.A. in Physics from University of California, Santa Barbara and Ph.D. in the field of Liquid Crystal from Kent state University, Ohio. She did her post-doctoral studies in Max Planck Institute, Gottingen, Germany and later joined the department of Physics of University of Ulm, Germany as Associate Professor. After returning to India, she joined Bose Institute as CSIR POOL Officer until she joined in the faculty position of Jadavpur University in 1979.

In the meantime she had already shown her acumen for the subject of her choice that is Physics when after passing her Higher Secondary Examination she succeeded in the Jagadish Bose National Science Talent Search (JBNSTS) Examination and received an insignia from the then Prime-Minister Pandit Jawaharlal Nehru on 11 April, 1961 and got a scholarship till her completion of Master’s degree. \(^{47}\) The JBNSTS was conceptualised by Dr. Bidhan Chandra Roy in the year 1958 on the occasion of the birth centenary of Acharya Jagadish

\(^{47}\) Interview of Dr. Papia Nandy, by the researcher dated 25.07.2012, Calcutta
Chandra Bose. The main purpose behind the setting up of this institute was the motivation, identification and nurturing of young talented students of science. Papiya Nandy’s receiving the award was significant as she was the only female candidate to have received the prize in the first batch.

During her research career in USA between 1967 and 1975, she was once again the first lady graduate to study in the department of Physics at the University of California, Santa Barbara, California. This is an interesting point as noted, by Dr. Nandy, that during this time, American women were by and large conspicuous by their absence in the field of science. The Indian scenario was, however, beginning to change at this time. One out of every ten post-graduate students in India was a woman studying for an M.Sc. degree, according to a survey conducted by the Indian Council of Scientific and Industrial Research. The survey revealed that a total of 6000 Indian women were doing post-graduate studies in science during the year 1966-67. It was disclosed that 70% of Indian women doing post-graduate studies in science at that time were below 30 years of age while those above 40 years stood at 3 percent. Of them, more than 50% were in Biology departments, 10% in Mathematics and Physics each and 5% in Chemistry. 78% of the Indian women scientists were employed in the teaching profession. This was also the case with the women scientists of Calcutta who

48 Interview of Dr. Papia Nandy, by the researcher dated 25.07.2012, Calcutta

were interviewed for the sake of this research. Papia Nandy was also no exception.

But as she found out in the U.S.A discrimination prevailed between the male and female teachers with regard to their salaries and girls were discouraged to study science as it was not considered to be a ‘feminine subject.’ This gendered view of what a female student should take up as her subject of choice smacked off gender discrimination in a country which was emerging as a super-power economically, politically and militarily in the post-World War II period. Such discrimination between the sexes continued even in the case of salaries and career advancement of the teaching faculty. However, the same was not reflected in the case of a European nation like Germany, a country which she visited to pursue her post-doctoral studies in Membrane Bio-Physics with full Fellowship. According to her, in India the condition of women students pursuing higher education or the professions was much better. The composition of students comprised mostly the urban-educated who got access to education in her times. There was restriction in intermingling and the girls were hesitant to call their male class friends by their first names.

Dr. Nandy was also the first lady teacher in the department of Physics at Jadavpur University, which she joined in 1979. Way back then, there was no female teacher in the department; and she remained a loner till a second female joined the department almost eleven years after her. She joined the department
as a Lecturer, then became a Reader and finally retired as a Professor. She remained an Emeritus Fellow of the Physics Department for some more years.  

Papia Nandy joined Jagadis Bose National Science Talent Search (JBNSTS) as its Director in the year November 2000 and continued till January 2015, mostly in an honorary capacity. The three main objectives of JBNSTS namely, motivation, identification and nurturing of young talented science students from mid-school to undergraduate level remained her predominant concerns and she focused on these commitments till the end of her term.

She is the founder-member and currently very actively associated with the Centre for Interdisciplinary Research and Education (CIRE), a Kolkata based NGO which serves as a platform for those who are interested in doing research in interdisciplinary fields. Throughout the year the Centre also organizes seminars of societal importance as well as science workshops for underprivileged school students and helps them to pursue their career.

She had and still has several research students working under her supervision, but she rues the fact that even though the numbers of female students have been increasing in the case of basic sciences, the number is still unsatisfactory. She is of the opinion that compared to the male students; female students are more sincere and hardworking, managing both their research work and their families.

50 Interview of Dr. Papia Nandy by the researcher dated 25.07.2012, Calcutta
The family structure has remained unchanged and only a supportive family can help a woman overcome the impediments that obstruct her from pursuing a career. The strong–willed lady that she is, she is of the opinion that women do not require any reservations or any favour as they are capable of achieving their goals by themselves to go on their own merit. The message is loud and clear from her side and perhaps reflects the psyche of many such undaunted women who prefer their own way in spite of the hurdles that they may have to overcome in achieving their cherished goals.

**WOMEN IN PURE PHYSICS:**

**Professor Dr. Sujata Tarafdar**

Professor Tarafdar at present re-employed in the Department of Physics at the University of Jadavpur, came from an educated middle class background where both parents encouraged her to pursue higher education despite the fact that she was a girl child. Her mother came from a Brahmo background and had herself been a teacher for some time at Patha Bhavan, Santiniketan. She also had a flair for writing and contributed in two popular children’s magazines ‘Suktara’ and ‘Sandesh’ in Bengali. Her father was a professor in economics and encouraged his daughter to take up science. Liking for Physics came in course of time for initially the young Sujata was more keen to take up English or Bengali literature as her future subjects of study. She was also interested in fine arts but her father wanted her to take up science subjects at least for the time being and
decide later on where her academic interests lay. She passed her Higher Secondary education in 1970 from Jodhpur Park Girls’ school. She finally developed a liking for physics and decided to take up the subject at the undergraduate level of study and thereafter completed her B.Sc., M.Sc. and research from this University. She did her doctoral thesis under Professor Asok Nath Basu, Emeritus Professor who also became her inspiration and motivated her to move on in that field.

Professor Basu himself was the student of Professor Shyamal Sengupta, Professor of Physics at Presidency College, now University. They worked together at the Solid State Physics Research Centre which had been set up at that time. This centre was established not primarily for research purposes but also to develop a scientific outlook among the scholars. This Centre subsequently shifted to Jadavpur University once Professor Sengupta retired. Sujata Tarafdar is the coordinator of the Research Centre where regular seminars are organized for the promotion of science.51

In a class of approximately twenty students in her discipline, there were seven girl students and as far as she is able to recollect, none of them are housewives. Some are employed in the banking sector, some have chosen academics – serving as school or college teachers and another had done her research at a University in the U.K. A friendly relationship was maintained between the male and female classmates and she confesses that on an average the girls outdid the

51 Interview with Dr. Sujata Tarafdar by the researcher dated 25.11.2015, Calcutta
boys in the class. She herself acquired the second position in the under-graduate and the first position in the post-graduate examinations. The teachers never discriminated the girls from the boys. There was, however, no lady teacher during her time in comparison to about one-third of females in the faculty at the time of interview. It is said that the girl students were discouraged from taking up Physics at the under-graduate level in the 1950s.

Cooperation from in-laws helped her in her work. Her mother-in-law looked after her daughter when she was a child as Professor Sujata Tarafdar was busy pursuing her research under a fellowship. Her father-in-law also wanted her to pursue academics.

She first joined a college in the north 24 Parganas and served there between 1984 and 1990 before joining the faculty at Jadavpur where she is now serving under the re-employment scheme. She has more girl students than boys, primarily because she is a female professor. According to her, the female scholars are dedicated, enthusiastic and hardworking. Marriage and child-bearing do not affect their passion for work. There are some who avail of the Department of Science and Technology’s (DST) programme for women researchers who have a break in their career because of family reasons, to help them undertake research projects. She expresses confidence in women’s capacity to manage dual responsibilities, at home and at work.

52 Interview with Dr. Sujata Tarafdar by the researcher dated, 25.11.2015, Calcutta
Also a wild-life enthusiast, Sujata acts as a conservationist as well. She has tied up with the Earth Watch World Wide Organization and endeavoured to conserve the ecology of the lakes and save the endemic species there. In South Africa, an entire penguin colony was saved from destruction through the efforts of this Organization. The liberal background in which she was reared was also reflected in her family’s consent to her choice of spouse who also happened to be her batch mate, a bold step considering those times. As far as her daughter is concerned, Professor Tarafdar and her husband gave her a free hand to decide her calling and never thrust their decision on her.

The Indian situation as far as the participation of women scientists is concerned is far more encouraging than that of the European countries such as Germany and Asian countries as Japan. China, however, presents a different picture as the number of women scholars there are considerable when compared to the others. An optimistic future is thus projected for female scholars, at least in the Department of Physics of Jadavpur University.

5.3 WOMEN IN MATHEMATICS:

Dr. Gourisree Datta

A woman pursuing doctoral studies in pure mathematics in Calcutta was not a very common proposition in the period under my study. The general trend for women was pursuing research in Applied Mathematics, Bio-Chemistry, Chemistry, Botany, Physiology and certain branches of medical science such as Obstetrics.
and Gynaecology, Pathology, Micro-Biology, Pharmacy Anatomy, Bacteriology, Epidemiology, and Cancerology. Subjects like pure mathematics or pure physics on the other hand, were consciously avoided by the majority of women pursuing doctoral studies in science. A few women like Bandona Gupta, Rekha Chattopadhyay, Maitreyee Dasgupta, Subha Chandra did take up research in pure mathematics. Gourisree Datta is one among them. She completed her under-graduation from Ewing Christian College in Allahabad and came to Calcutta as her father was transferred to this city. Here she completed her Master’s from Jadavpur University. During this time, only about 15 girls out of a total of 60 students took up Mathematics; that was still considered to be strictly a ‘male’ subject. The female students used to sit in the front benches, while the boys sat at the back, reminiscent of several co-educational institutions at that time, the Medical College of Calcutta being no exception. There was, however, no female teacher in the faculty, while she was a student; by 1967, when she joined Jadavpur University as a Lecturer in the Mathematics department, there was only another lady teacher in the faculty. By the time she retired in 2003, the number of females in the faculty equalled the number of male teachers. She completed her doctoral studies from Jadavpur University in 1984 and was awarded the post-doctoral degree from the Indian Institute Bangalore (I.I.Sc)

54 Dr. Debashis Bose eds.et al 175 Years of Medical College Bengal, Commemorative Volume, Medical College Ex-Student’s Association 2009) Calcutta, p.120
Bangalore in 1986-87. She completed her M.S. from the University of Cincinnati.55

A natural liking for mathematics developed in her from her childhood. Born of parents who were originally from East Bengal, Gourisree’s family had migrated from Mymensingh in the year 1948. Her father and brothers were good in mathematics and that possibly influenced her decision to pursue the subject.56 Thereafter choosing a career in academics followed automatically. Although apparently, there was no discrimination between the girls and the boys, yet she felt that the male ego worked in most cases and that ultimately jeopardized a woman’s professional advancement. She preferred to remain a single mother rather than settle for an incompatible married life; a fact signifying that the role models were changing and the age-old construct of an ideal woman, as the devoted and sacrificing wife and doting mother was breaking new grounds.

5.4 WOMEN IN MEDICINE:

Dr. Bulbul Raychaudhuri

While the trauma of partition forced the women to seek for jobs and equip themselves with a respectable educational degree, there were innumerable men who had to leave behind their lucrative professions and were also forced to migrate. This historical backdrop was a reality in the case study of several of the

55 Interview of Dr. Gourisree Datta by the researcher, dt.19.03.2016, Calcutta

56 Interview of Dr. Gourisree Datta by the researcher, dtd.19.03.2016, Calcutta
accomplished women doctors, engineers, chemists and physicists who were
interviewed for purpose of my research.

In the case of Dr. Bulbul Raychaudhuri, born to educated middle-class parents,
hers father a radiologist in the district of Barisal in modern day Bangladesh, had
to leave behind an established practice on account of the post-partition
communal riots and migrated to West Bengal in 1950. They put up at Kharagpur
from where Bulbul passed the I.Sc. Examination in first division from a local
school. This was the first time that a girl student had achieved this distinction in
Kharagpur. There was no electricity available till the time the aspiring young
doctor passed her I.Sc. Examination in 1958. It is interesting to note that even
post-colonial India, there were no high schools for girls in Kharagpur – a fact
that leaves room for some probing research in the history of female education. 57

At a time when the number of women passing the Matriculation examination in
Bengal between 1930 and 1946 had increased by 1000% compared to that of
men whose increase was around 250 %, the lack of higher educational facilities
for girls in mofussil towns gained additional importance. This trend continued in
Bengal even in the 1950s. 58 It was only on account of the influx of women
refugees from East Pakistan at that time, that a provision was made to start a
morning shift accommodating girls’ students in the boy’s school of Kharagpur. As

57 Interview with Dr. Bulbul Raychaudhuri by the researcher dated 16.12.2015, Calcutta
58 The Statesman, Calcutta, 4 December, 1956,p.12
Dr. Bulbul Raychaudhuri would have us believe, it was because of the migration that education of the girls got a fillip in the area.

Not that there were no obstacles thereafter. Familial pressure persisted and discouraged Bulbul from taking up medicine. But her mother encouraged her and was the main source of inspiration behind her higher education. Secondly, a dichotomy still existed between the aspirations of the women and the government policy which still emphasized the need of a separate curriculum for girls, to prepare them for their desired roles in family life in consonance with the still pervading conservative mentality of the times.

Still there were families promoting the higher education of their daughters - Bulbul Raychaudhuri’s case being another instance. Her parents always encouraged her to advance herself professionally. She completed her MBBS and DGO from Calcutta Medical College in the years 1963 and 1966 respectively. The number of women students studying at the four medical colleges of Calcutta was about 350, and of them more than 90% were Bengalis. Figures confirm that even a decade ago, the number of Bengali women in the medical colleges of Calcutta hardly exceeded fifty, and more than half discontinued their studies in the first, second or third year to get married or for other reasons. But by the mid-1950s, the number of such cases among women in the middle of their medical courses was almost nil.59 She passed her MD examination from the

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University College of Medicine, Calcutta in 1975. She recollects that during her days as a student of Medical College between 1958 and 1965, there were around fourteen to fifteen females in a class of 150. There was, however, no rivalry between friends and her batch mates were extremely cooperative, though free mixing was not the norm at that time. She worked under Raniganj Coal Association near Dhanbad as Medical Officer for six months. Then she joined the Main Hospital run by the Steel Authority of India (SAIL) at Durgapur. Thereafter she took leave to complete her MD in Gynaecology and Obstetrics and returned to work in the same place. She was later on promoted to senior specialist in Gynaecology and Obstetrics while working at the Calcutta branch. She got married in 1975 while she was still pursuing her M.D. degree.

She was transferred from Durgapur Steel Plant to Calcutta because of her ailing –in-laws. She recounts that it was difficult in those days to manage a child and the demands of a private practice. The facility of day-care centres for children of working mothers was not yet common.

Her area of specialisation being Gynaecology, Dr. Raychaudhuri was not content with her job at the SAIL office in Calcutta. She was also the only female doctor in the unit and was also much harassed by her male colleagues for being more qualified than them. As she admits, it was not so much the gender issue that vitiated the atmosphere in the office, but the fact that educationally her male

60 Interview with Dr. Bulbul Raychaudhuri, by the researcher dated 16.12.2015, Calcutta
colleagues had been left far behind that hampered her professional career at that time. 61This experience is reminiscent of the 1880s when the young Kadambini Ganguly was not awarded one mark by her examiner Dr. Rajendra Chandra Chandra on the grounds that she was a woman and so missed her M.B. degree.62 Under these circumstances, Bulbul left the organization in 1988 and started private practice in Calcutta and steadily earned her fame in gynaecological cases. Her friends helped her to build up her practice in Calcutta.

Gradually she became attached to several professional organisations as Executive member of the Bengal Obstetrics and Gynaecological Society, the Calcutta Medical Club, the Calcutta Branch of Indian Medical Association, the Association of Medical Women in India, West Branch. She is still continuing as Executive member of all the above associations except the Indian Medical Association (Calcutta) Branch.

While being a successful practitioner of medicine in the period under my review, Dr. Raychaudhuri also became associated with the Mission Hospital in Calcutta, which is a voluntary hospital in Calcutta where the staff is also predominantly women. It was a hospital set up for the under-privileged women and children.

61 Interview of Dr. Bulbul Raychaudhuri, by the researcher dated 16.12.2015, Calcutta

She taught nursing students at the mission hospital for some time and at the moment is serving as its President for the last six years.\(^{63}\)

Being a doctor attending to the special problems of women, she advocates that the health of women should be given priority. In spite of the many challenges that a woman has to overcome, she does not recommend special provisions for women in higher education and the professions, although she admits that women post-marriage find it difficult to manage their careers, because they also have to make a family. A supportive family background, therefore, is necessary to enable the woman to maintain a harmonious balance at the domestic and workplace fronts.

**WOMEN IN MEDICINE**

**Dr. Jayasri Mitra**

Born of parents who were originally from Faridpur, a district in East Bengal, the family had settled in Calcutta long before partition. With an urban, educated middle class background, the young Jayasri did not face hindrances in the pursuit of education as a girl child in the family. Her father was advocate practicing criminal law while her mother was a housewife. Her brother and his wife are both doctors. She did her schooling from St. Teresa’s Convent in Calcutta - not a very common proposition for a girl in those days to be educated in a convent. She passed her Senior Cambridge examination in 1964 and got admission to the

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\(^{63}\) Interview of Dr. Bulbul Raychaudhuri, by the researcher dated 16.12.2015, Calcutta
Nilratan Sircar Medical College in 1965. She completed her D.Ch. in 1972-73 and M.D. in Community Medicine in 1980-83. She joined as a teacher at the Calcutta Medical College for two years, then served at the North Bengal Medical College for five years before joining National Medical College and later on R.G.Kar Medical College, Calcutta.

She herself admits that during her college days she was not looked upon as a typical girl. This perhaps explains the fact that a routine academic career was not her cup of tea. She admits that she was rather pushed into the administrative career, which has been her domain for the last twenty years. Her first stint as an administrator was as the Principal of R.G. Kar Medical College and Hospital in the year 1993. Subsequently she served as Principal of Calcutta Medical College and Hospital from 1997 to 2003. She was the Director of Medical Education from 2003 to 2008. In doing so she actually became the first woman doctor to have assumed the charge of an administrator in the capacities of Principal as well as Director of Medical Education. She also was the Dean of Manicktala ESI Hospital. She joined the Employees State Insurance Corporation (ESIC), Joka in 2014 where she is still serving as the Dean.  

In her long stint as a successful administrator, Dr. Jayasri Mitra Ghosh is of the opinion that women are better administrators than men. There is a streak of devotion, commitment and respect towards the woman who stays late at night

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64 Interview of Dr. Jayasri Mitra, by the researcher dated 30.03.2016, Calcutta
for duties, especially from the teaching and the student communities. In her career as an administrator, there were several instances when she had to settle disputes between the police and the students and also successfully solve gherao issues.

As far as her family was concerned, her husband and daughters helped her to perform her administrative duties without any hindrances. But the dual responsibility of managing the home as well as a challenging profession was taken care of by her with tact and efficiency. It was not as if there were no issues at the domestic front, for she believes that as far as household duties were concerned, society still maintains a rigid segregation of the ‘male’ and ‘female’ spheres of work. The hard work, long hours of duty and a prolonged time to get settled in the medical career acted as deterrents for her daughters to pursue their mother’s choice of profession. 65

In her batch of hundred and fifty students, in the mid-1960s, there were forty girls all of whom went in for higher studies and professions excepting one whose husband did not want her to do so. College days were fun-filled and the girl students never faced any kind of discrimination from the faculty or the batch mates. It was in the final year of her M.B.B.S Examination, that the Naxalite movement was at its height and they tried to prevent the students from entering

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65 Interview of Dr. Jayasri Mitra by the researcher dated 30.03.2016, Calcutta
the premises and appearing for the final examinations. The girls, however, led the boys into the college and the examination could be held.

She rues the fact that the teacher–student relationship has eroded in recent times and is not the same as it was before. A level of personal relationship existed between the teachers and the students. She still remembers how one of her professors had arranged for a hostel for a girl student who had been commuting from the suburbs. 66

In her capacity as an administrator, she had looked into every aspect of the welfare of girl students. She had arranged for bathrooms in the girls’ hostels and even personally took care to motivate a depressed student to sit for her examinations. On a similar note, she was instrumental in helping out a needy but meritorious student to get a job in one of the interviews conducted by the Public Service Commission, of which she was one of the members on the Board of Examiners. She had also in her tenure as the Principal of Medical College made arrangements for providing Rs. 2000/ per month to a needy student and helped her to complete her studies.

Dr. Mitra is conscious of the hardships that a girl faces in life. She is thus a staunch advocate of reservation in jobs for women on the basis of merit. A girl child according to her must be educated to face the world in all walks of life. Her mind should be broadened and discrimination against daughters should be

66 Interview of Dr. Jayasri Mitra by the researcher dated 30.03.2016, Calcutta
stopped. In this way the male-female imbalance can be addressed. Being a doctor she is also of the opinion that a girl child should be equipped to face the challenges which life may throw at her. Thus there arises the need to strengthen the girl child both nutritionally and emotionally, so that a girl can achieve her due position in society of which she is capable. As the head of the medical colleges in the state, she had observed that although female candidates more often than not bagged the top positions academically, yet when it came to practicing the profession, they often fell short of top level positions as surgeons or physicians. This has been a limitation for most women as being fiercely independent would lead to discord within the family.\textsuperscript{67}

Thus by her admission, gynaecology, medicine and plastic surgery are areas in which women specialize more than in other branches of medicine. In North India, however, women patients have a bias against male gynaecologists and they still flock to lady gynaecologists, who have dominated this field in that part of India for so long. Although there is the typical assumption and mindset that women cannot perform surgeries well, lady doctors Manju Banerjee and cardio-thoracic surgeon Sushila Sripad have proved it false through their repeated successes in the respective fields. In Russia, the medical profession is a preferred choice for women but according to Dr. Mitra with regard to certain specializations, the social stigma for women lady doctors still remain a deterrent in India. Orthopaedics is another area in which women doctors do not specialize.

\textsuperscript{67} Interview of Dr. Jayasri Mitra, by the researcher dated 30.03.2016, Calcutta
as they are physically compromised and as these surgeries take long hours, even 8-10 hours to complete one surgery. 68

As an administrator her opinion is that being a woman put her in an advantageous position, people listened to her. In her capacity as the Principal of several medical colleges and the Director of Medical Education in West Bengal, she had ushered in several changes and improvements leading to the upgradation of the existing structures in the hospitals and medical colleges and replaced the obsolete equipments with modern ones to ensure greater and better service to the masses at large. This she had been able to do by virtue of her position, something which remains close to her concern. In the R.G. Kar Medical College and Hospital she established the radio-therapy department and channelized the M.P.Lad fund to construct water reservoirs and waiting rooms for patients, facilities which were sorely neglected all these years. She also utilized the services of the local councillor to demolish five condemned blocks in the R.G.Kar Hospital premises that were there in a precarious state since 1978. A new outdoor block, an Auditorium, R.M.O. quarter, quarters for Group D were built instead. Apart from the Medical College and Hospital, seats in the gynaecology, medicine and surgery departments were increased in the period between 1998 and 1999 at the R.G.Kar Hospital. DNB courses were started in Bangur Hospital and Sambhunath Pandit Hospital. She also put to use the sum of 70 lakhs of rupees donated by a famous cricketing personality, Sourav Ganguly,

68 Interview of Dr. Jayasri Mitra, by the researcher dated 30.03.2016, Calcutta
to be invested in the state-of-the art equipments in B.C.Roy Hospital. It was during her term as Director of Medical Education that the Kalyani Medical College and Hospital was given its final shape. The School of Digestive and Liver diseases in S.S.K.M. Hospital was also her brain–child. The department of Rheumatology was started in the S.S.K.M. Hospital and it was the first of its kind in Eastern India, second only to the All India Institute of Medical Sciences, New Delhi. Physical Medical Rehabilitation (P.M.R.) was started in S.S.K.M. A flagship Institute in Neonatology in Eastern India was set up as a model Institute by the UNICEF in the premises of the IPGMER (Institute of Post-Graduate Medical Education and Research). A 30 bedded ICCU unit was set up in SSKM. The DM course was started in cardiac-anaesthesia, hepatology, rheumatology. There was increase in seats in Post-Doctoral and MD courses. There were 120 seats at the MD level which quadrupled to meet the demand for specialists.

As an administrator the need to attract the best doctors to the teaching faculty in the state run medical colleges convinced her of the need to make the posts practicing. This was an issue hotly debated since the Chief Ministership of Dr. B.C. Roy who also advocated private practice for doctors to attract and retain the best in the medical profession. As the Director of Medical Education (D.M.E.) she was in charge of the equipment, manpower and transfer of the hospital staff of the medical colleges in West Bengal and she made good use of her powers in the service of the common man. Dr. Mitra despite her manifold achievements
strongly believes that one cannot run the show alone and that delegation of powers is as important to run a system, as the efficiency of the proposer.

Having experienced the different walks of life from being a daughter, a wife, a mother and even a grandmother, she feels that all these critical points in life are significant as they make a woman mentally powerful. The vicissitudes of life did not let her wallow in self-pity. She is thankful to her parents for bringing her up in a disciplined way that helped her to overcome the several odds of life. She admits that the East Bengali origins of her parents must have helped her to battle the odds in life and take things as they come.

WOMEN IN MEDICINE

Dr. Swapna Chakraborty

Dr.Swapna Chakraborty’s father had migrated to West Bengal a long time back from his ancestral family at East Bengal in Dacca. Swapna was the youngest daughter in a family of two brothers and two sisters. Her mother was a housewife. As a young girl Dr.Swapna Chakraborty was inclined to the biological sciences, although she had an aptitude in humanities as well. Her parents influenced her decision but it was on her own choice that she became a doctor and pursued the medical profession. She wished to be in the public relation where through service to the patients, she could help the society. Besides within the family itself, several people encouraged her to become a teacher in the medical profession.
Swapna had her schooling at the Oriental Seminary, in North Calcutta. She was then admitted to the Bethune College before joining National Medical College and Hospital, Calcutta. Her year of enrolment in the National Medical College was 1968. Thereafter she joined the BC Roy Children’s Hospital to complete her D.Ch. The Naxalite Movement hitting Calcutta and several districts of West Bengal during the late sixties and early seventies, however, led to the postponement of the final examination which took place two years later than the scheduled period.69

As a student in the Medical College and even later on while pursuing the postgraduate degree in the Calcutta Medical College (1978-80), she was never a victim of discrimination on the basis of gender. Teachers and classmates of the opposite sex were cooperative, although the male-female ratio was 8:1 among students.70 There were only 28 girls in a class of hundred boys in one class. 71

Swapna herself chose a doctor as her life partner. She became the mother of two daughters. However, both her daughters became professionals - one opted for an engineering career and the other became a dentist. As a career woman, she admits that she had to compromise between household chores, children and a career.

69 Interview with Dr. Swapna Chakraborty, by the researcher dated 04.07.2012, Calcutta

70 Interview with Dr. Swapna Chakraborty, by the researcher dated 04.07.2012, Calcutta

71 Dr. Debasis Bose eds.et al 175 Years of Medical College Bengal, Commemorative Volume, Medical College Ex-Student’s Association, Kolkata, 2009,p.121
Swapna did not indulge in private practice as it would be time-absorbing. Herein may be detected the limitation that a lady doctor has to face while combining family responsibilities with full-time practice. Men do not work under such constraints. She observed that women, even today, especially Marwari women have a tendency to prefer female gynaecologists as far as child-birth issues were concerned. So certain specializations do have a gender bias. Being a lady doctor, also helped at times as the mothers could pour out their tales of woe more easily, relate difficulties which as women the doctors had also experienced, unlike their male counterparts. She joined the Primary Health Centre at Bagnan as I.C.D.S. Medical Officer in 1980. After that she worked for many years at the NRS and the SSKM hospitals in Kolkata. She operated as the RMO cum Clinical Tutor between 1982 and 1984 at the NRS Medical College and the SSKM. She became a lecturer in 1990 and thereafter rose to the position of Professor and Head of the Department of Paediatrics in Calcutta Medical College and Hospital till her retirement. Like other successful professional women she too is of the opinion that is no need for reservations for women. What was imperative was indeed the establishment of better hostels for the students and a secured accommodation for lady doctors. This was virtually the subject of several debates in the State Assembly meetings, in the post Independent India. Needless to say,

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[72] Interview with Dr. Swapna Chakraborty, by the researcher dt.04.07.2012, Calcutta, See also Dr. Debasis Bose eds.et al 175 Years of Medical College Bengal, Commemorative Volume, Medical College Ex-Student’s Association, Kolkata, 2009,p.121

[73] Interview of Dr. Swapna Chakraborty, by the researcher dated 04.07.2012, Calcutta
she argued, failure to meet this requirement often led to vacant posts in the rural hospitals and in North Bengal.\textsuperscript{74}

\section*{5.5 WOMEN IN TECHNICAL EDUCATION:}

\textbf{Ila Ghose- India’s First Mechanical Engineer}

Ila Ghose néé Majumder was born in a large family consisting of six sisters and two brothers. She passed her Matriculation in 1945 and thereafter her I.Sc. examination from Asutosh College, Calcutta in 1947. Her family was originally from Faridpur in modern day Bangladesh and her father was a Deputy Magistrate at Ghatatal, in Midnapore district at that time.

In 1947 under the then Education minister Nikunja Maity, the Bengal Engineering College at Sibpur announced entrance examinations for girls also. Ila’s brothers and sisters too encouraged her to sit for the examination. Two girls Ajana Guha and herself emerged successful in the entrance examination. Simultaneously Ila had succeeded in the Medical entrance of that year but as Ila wanted to venture in an area which was yet untrodden by girls her father, being the liberal person that he was, did not discourage her from pursuing her desired field of study.

The first two years of the course was common for all the students and she chose Civil Engineering at that time. The Bachelor of Engineering examination Part- I conducted in the second year was a tough one. The college authorities had made arrangements for hostel accommodation at that time for the two ladies; but
Ajana could not pursue her studies after two years and switched over to B.Sc. in a general degree college. Later on she was able to find a suitable employment.

Apart from the fact that the winds of democracy post-1947 did pave the way for girls to take to engineering in Bengal, individual initiative from several broad-minded individuals also helped meritorious girl students to advance themselves academically and professionally. This was the case in point when the Principal of the B.E. College, Sudhir Ranjan Sengupta took keen interest in the first woman student of the institution and advised her to change from Civil Engineering to Mechanical as the former field of study would entail a lot of survey work outside the college.

During the pre-independence period in the branch of electrical engineering a lady candidate called Leela George from Guindy had already qualified. So the young Ila took up the challenge of completing her degree in Mechanical Engineering being the first woman to study it, which so far was considered as a ‘male subject’. Engineering till the thirties was mostly Applied Physics; Civil, Mechanical and Electrical engineering being essentially concerned with the application of physical principles to the fabrication of structures, generation and utilization of power and problems of transport. Since then branches of engineering had been coming into prominence especially in the USA- Chemical, Biological, and Public Health Engineering. Research in biological sciences had,

75 www.projectsmonitor.com/pathfinders/shakuntala-a-bhatag-first—woman-civil-engineer-bridge-superstructure/

76 Interview with Ila Ghose by the researcher dt.29.04.2016 Calcutta
however, received considerable attention in the past. Thus it was commendable that a woman soon after the birth of the nation was making forays into a hitherto untrodden field. 1947, therefore, could not have been the triggering factor. Dormant potentialities within women lay unexplored and found a chance to excel with the proclamation of equal right of opportunities to both the sexes as regards education soon after independence.

In the post-World War II period, there was tremendous change in every sector. Germany had been defeated and some professors even came to India to find suitable jobs. In the B.E. College, the professors were very liberal. There was little gender bias fortunately as Ila Ghose would have us believe.77 The Principal had arranged for a matron to be with the only girl student of that time.

But the important question that bothered Ila was whether the factories and industries in India would employ fresh women graduates. As luck would have it, her Principal arranged for a training course in Glasgow, Scotland in precision instruments manufacturing like telescope, periscope of a submarine, radar and other defence equipment. Her father arranged for her ship fare. The training scheme included machine shop, testing shop, planning and design. After attending a two years’ course, she was given the Certificate of Apprenticeship. She happened to be the only qualified woman in the firm.78

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77 Interview with Ila Ghose by the researcher dt.29.04.2016. Calcutta

78 The Statesman, Calcutta 11 March, 1957, p.5
On her return to India, she wrote to the government to provide her with a job. She was asked to join the Government Service at the Ordnance Factory in Dehra Dun. She was appointed Lecturer at the Delhi Polytechnic, now IIT, within six months of her return to the country. This was perhaps the first time in India that a female teacher in a technical institution was employed. The college was co-educational and the girls were in the architecture department, which highlighted the fact that within the stream of engineering, as in medicine certain branches of study were deemed more suitable for girls. But Ila’s students were all boys as she had graduated in a hitherto ‘male’ specialization. There was not a single woman student in two years. She returned to Calcutta, and joined the Institute of Jute Technology in 1959, only to get married and settle down in Calcutta.

In the meantime, the Director of Technical Education asked her to join as the Principal of the Women’s Polytechnic in Calcutta, which had been established on the lines of the Delhi Polytechnic. This was in consonance with the government policy to start three new polytechnics by 1964, including the one for women in Calcutta. The Polytechnic became increasingly popular among girls. It was a three years course but they got suitable jobs. As the Principal, Ila managed to procure several computers with government grant for the Institute and by the mid-1960s, computers became popular apart from other two courses, electrical engineering and architecture.

79 Proceedings of the West Bengal, Legislative Assembly, 35th session, March 1963, p. 817
As far as her professional career was concerned, among her other laurels was her deputation by UNESCO as the Chief Administrative Officer for the Women’s Polytechnic in Dacca. It was a very successful project from the very beginning and highlights the fact that one educated woman was in the helm of an international project to lead other women in the path of education. But the fact that the problem of lack of industries persisted in Calcutta, led to the absence of many courses in the city’s Women’s Polytechnic. She became and still is a member of the Society of Women Engineers, promoting technical education among women. Her view of her teachers was that they were always affectionate to her and as regards the attitude of the boys towards the girl students were concerned, patriarchal attitude was not over-powering. To put it in her own words, ‘All the men in the (Shibpore) college started with mental reservations but soon they got used to me.’\textsuperscript{80} This seems to be quite modern considering the times. As far as she is concerned, teaching is a preferred option for women post-marriage and she is of the opinion that a woman’s contribution to the family is always more than a man.

**WOMEN IN TECHNICAL EDUCATION:**

**Ratna Sarkar Electronics and Telecommunication Engineer**

The mood in the mid-1950s was upbeat as far as the participation of women in the building up of a ‘New India’ was concerned. At the A.I.C.C. meeting held at Beleghata, Calcutta in November 1956, which turned out to be the biggest

\textsuperscript{80} The Statesman, Calcutta 11 March, 1957,p.5
gathering of women at that time, the Prime Minister Mr. Nehru, Mrs. Indira Gandhi, Mr. Dhebar the Congress President and the West Bengal Governor Sm. Sarojini Naidu invited women all over the country to participate in increasing numbers to solve the social and economic problems with which the nation was confronted. Pandit Nehru even remarked that the status of women was the best measure of the progress made by a country in cultural and other spheres. On behalf of the government it was announced that plans had been undertaken to fight poverty especially in the rural areas where the majority of the people lived. Legislative measures had been introduced to remove social inequalities and disabilities suffered particularly by Hindu women. The Prime Minister declared that so long as women remained in bondage, no social progress was possible. China where women had been completely emancipated made the greatest progress in the social sphere. This stand of the government definitely gave a fillip to those women who aspired to make it big in their own way.

Ratna Sarkar who joined the third batch of Electronics and Telecommunication Engineering, at Jadavpur University in 1958 was one of them. Having had a sound educational background from the Brahma Girls School, Calcutta and subsequently from Scottish Church College, Ratna was of an independent bent of mind from her very early days. It was she who along with her close friend decided that they would sit for the entrance examination of B.E. Sibpur

81 The Statesman, Calcutta November 11, 1956, p.9
82 Ibid.
Engineering College. Her friend’s father was the Principal of a Polytechnic college and this was what led her to experiment with the idea of becoming an engineer, not a very popular or desired choice among girl students in those days. So they applied for Telecommunication engineering which had already been introduced in Jadavpur but Civil and Mechanical Engineering at Jadavpur University was still not open to women in those days. Moreover as her paternal aunt discouraged her from taking up medicine, she did not apply for medical studies. As a student she was interested in Physics and so engineering also became a natural choice for her. Her mother was a school teacher and her father was a government servant in the Irrigation department. They hailed from Bikrampur, Dacca and had heard stories from her maternal uncle of the volatile situation in Calcutta during the Calcutta killings of 1946 and how his family with their infant daughter had escaped butchering by Muslim fundamentalists and was finally saved by a Chinese family in the house at Tiretti Bazar where they were staying. This background perhaps explains the streak of independent thinking and courage in Ratna’s attitude. Regarding her marriage also she chose to differ from her family’s choice and married a person of her own will.

As far as the reaction of the immediate family to the choice of her study was concerned, it was definitely a mixed bag as was expected. Her mother and maternal uncle opposed her decision as was expected on grounds that being a girl she would have to face problems as regards her posting, but her father

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83 Proceedings of the West Bengal, Legislative Assembly, Twentieth session, 1958, p. 372
encouraged her to take it up. Moreover as was customary, technical education was not encouraged in those days as it was considered to be unsuitable for girls as it entailed physical labour.\textsuperscript{84}

In her batch of engineering students, there were only two girls in her department in the Bachelor’s course at Jadavpur University where she received the Uma Rani Ghosh Medal in 1962 for securing the highest marks at the Bachelor of Engineering Final Examination in Telecommunication. \textsuperscript{85} She happened to be the only girl student in the Master’s course in Electronics in IIT Kharagpur. She, however, could not complete her Master’s as she was not granted a week’s leave by her departmental head who also harboured anti-Jadavpur University sentiments and so did not sanction her the leave.

Having graduated from Jadavpur University, Ratna joined the fresh pass outs who were then offered training by the Government of India on a stipend of Rs. 150 per month. The Council of Education also arranged for training in the testing laboratory of the WBSEB. In 1962 she got admitted to the Master’s course in Electronics in 1962 but got an appointment as Assistant Engineer in WBSEB in 1963 which she finally accepted. She did not prefer to take up teaching after completing her engineering course and so took up a government job.

Mina Sengupta and Bharati Sengupta who belonged to the first batch of Telecommunication and Electronics engineering of Jadavpur University had also

\textsuperscript{84} Interview of Ratna Sarkar, by the researcher dated. 14.03.2016, Calcutta

\textsuperscript{85} Jadavpur University Annual Report April 1962-March 1963, p.32
joined WBSEB but later on left to join the Women’s Polytechnic which had been established at that time in Calcutta. For a long time she remained the only woman engineer in WBSEB. In 1975 she joined Rural Electrification Corporation (REC) in New Delhi. She also joined the Central Board of Irrigation and Power (CBIP) and retired as Chief Engineer, Material Controller, a post considered appropriate for her by the Chairman of WBSEB. Being an independent career woman, she strongly believes that since a lot of investment into higher education, particularly engineering and medical courses is borne by the government, if women students do not take up and continue with their jobs, then it will be a national wastage. So the best way to give back to the country is by working and through increasing the national productivity. Ratna Sarkar seems to be in line with those Bengali women who have been coming forward in incredibly large numbers for education at all levels and for service and professional careers for the past two decades. This had been described in the newspapers of the time as the ‘resurgence of the Bengali women since the thirties.’

**WOMEN IN TECHNICAL EDUCATION:**

**Chandra Banerjee-Architect and Engineer**

By the 1960s, there were six engineering colleges in the state. Apart from the IIT at Kharagpur, there was the Bengal Engineering college at Sibpore, the College

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86 The Statesman, Calcutta 4 December 1956, p.12
of Engineering and Technology at Jadavpur, the Regional College at Durgapur, the Engineering College at Jalpaiguri, the North Calcutta engineering college. But still the number of women engineers was not many. The problem with engineering education was to provide education to the technically equipped students and its reach was still limited as it was very costly.\textsuperscript{87} This would perhaps explain the class composition of the students who studied engineering and the reason behind the fact that most of the women who entered it came from middle-class and upper middle-class urban backgrounds. Coming from such a privileged background, Chandra Banerjee graduated as an architect engineer from Jadavpur University in 1971.

During this time however, as more and more women were seeking jobs outside their homes, world organizations such as the International Labour Organization, national governments and competent, authorities could not afford to stay indifferent to such problems. Attention had to be paid to the special problems which married women in particular were facing, in shouldering the dual responsibilities of their family and the job front not to speak of the question of offering equal opportunities for women.\textsuperscript{88} The first step was to admit that women also had a right to work. \textsuperscript{89} It was also a period of political unrest as a result of the Naxalite movement in Bengal, which led to a job scarcity in the city.

\textsuperscript{87} Proceedings of the West Bengal Legislative Assembly, 35\textsuperscript{th} session, 1963, p.831

\textsuperscript{88} The Statesman, Calcutta 18 November, 1966, p. 12

\textsuperscript{89} Ibid
It was during these times that Chandra Banerjee accomplished the feat of being the third woman engineer to have joined the Calcutta Public Works Department (CPWD) in the year 1978 and rose rapidly to the post of Deputy Architect within a year. The fact that she was a Bengali and a woman did not stop her from being employed here. Engineering not being a very common choice among women, the fact that she opted for it can be explained by the fact that early in her childhood, one of her father’s friends who happened to be an engineer inspired her to become one later in life. She appeared at the Joint Entrance examination which had started from that year and joined the Engineering course at Jadavpur. Success at the examinations enabled her to start her academic career, at the engineering department in the Jadavpur University.\(^9^0\) There were, however, no females in the engineering faculty at that time although among the students, few girls did take to engineering, mostly architectural and telecommunication engineering. The same was the case with the premier institution under Calcutta University, Presidency College, were girls outnumbered boys in at least 6 Honours subjects in the Humanities. In 1972-73, there were 659 boys and 354 girls whereas in 1971-72 there were 773 boys and 416 girls enrolled at the Presidency College. Boys, however, continued to dominate the science subjects, though in Botany and Zoology the distribution was more or less even. It was in the Arts subjects that there was a reversal of the position. Despite the increasing number of girls there were only six women teachers. From

\(^{90}\) Interview with Chandra Banerjee by the researcher dated. 11.03.2016
this point of view, Presidency was still considered to be a ‘men’s college’ during the mid – seventies and women teachers appointed to this premier College had to go through a complicated procedure before they got the job. 91

Chandra Banerjee’s father’s side had its roots in Comilla district of East Bengal from where they had migrated to this part of Bengal a long time ago. Her mother, however, was from West Bengal. On both sides, her grandfathers were highly educated and established and above all education had made her family progressive in all respects so much so that she did not face any objection to further her education in the engineering field. Her mother, though herself a housewife, was a strong force behind her education and never pressurized her to do anything. She also found matching companionship in her husband who himself being an engineer provided every support to his wife to maintain the right balance between a demanding job and the pressures of a family life. By virtue of a supportive family she could brave the hazards of a transferable job and adjust her career accordingly.

As far as her chequered career was concerned, she strongly believes that merit has always been the deciding factor in one’s career. She herself admits that in India there had not been any discrimination on the grounds of sex in any sector, not only as far as career advancement in government jobs were concerned, but also in the private sector. She herself served in corporate firms such as Sanon Sen and Associates and Bose Brothers for some time. She was associated with

the construction of the Netaji Indoor Stadium and other such stalwart projects. Herself being a career woman, she believes that women should be self-sufficient and pursue careers as it makes one independent and empowered not only in the society at large but within the household too and it is women who alone are capable in striking the best balance between an active career and the daily household chores including the rearing of children.

That this continued to be a problem would lead one to conclude that in spite of the constitutional guarantee of equal opportunities for education for both men and women, the structural and normative barriers and the cognitive differences between genders continued to be the over-bearing socio-psychological explanation of women’s underrepresentation in higher professional positions in the core sciences, technical and medical professions even after independence.92 The very notion that prevailed so long in Indian and European societies that to be an ‘educated woman’ one had to fulfil a social idea and be educated according to the standards established by one’s society;93 but this was fast losing ground, thanks largely to governmental intervention in India and the changing needs of women. Doubtless, such changes had become imminent on account of certain political and economic exigencies. No doubt there were economic and societal pressures but these were being overcome by some of the families and once that was achieved, success through hard work and determination proved to

be the key factors towards wish-fulfillment of these ambitious, self-willed and pioneering women of science in Calcutta in the first three decades since independence.