

Review Essay

**Shanti Swarup Bhatnagar: Life and times**

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Shanti Swarup Bhatnagar (1894-1955) was, in a way, a bridge between two cultures and two eras. He came at a time when science was greeted with a sense of mission, but literature was still valued. Encouragement and recognition were sought from the colonial empire, not as an end in itself, but as a prelude to nation building. An internationally acclaimed chemist, Bhatnagar wrote Urdu poetry under the aptly chosen pen-name of *Seemab* (meaning mercury) and went on to compose, in Sanskrit, the ceremonial hymn for Benaras Hindu University. Notwithstanding his knighthood and the official position of Director (since renamed Director-General) of Council of Scientific and Industrial Research, Bhatnagar had the courage to publicly touch the feet of the Congress president on the latter's release from jail. If the chemical industry, along with its derivative the pharmaceutical, is an important part of Indian economy today, it is in no small measure due to the scientific and managerial efforts of Bhatnagar who half in jest claimed intellectual lineage from the pioneering Indian modern chemist P.C. Ray, Bhatnagar's teacher having been Ray's early student. Chemistry was rather a laboured link with Bengal; what exercised great influence on the course of Bhatnagar's life was the Bengal-born Brahma Samaj movement.

Shanti's father, Parameshwari Sahai, became a Brahmo, preferring the idealist vocation of a teacher to the family's favourite practice of taking well-paying, middling jobs in revenue and judiciary. Leaving college half-way through on his father's death and estranged from his uncles because of his religious beliefs, Sahai became second master at Anglo-Sanskrit High School, Bhera, district Shahpur, Punjab, from where, in 1893, he went to Lahore to serve as a volunteer at the Indian National Congress. In 1894, on 21 February, Shanti was born; in March Sahai privately sat for his B.A. examination, which he passed with distinction in history and English. Sahai however died when Shanti was barely eight months old.

Cut off from the husband's side and without any means of her own, Sahai's young widow and her three children (one yet unborn) were received by her father, Munshi Pyare Lal, one of the earliest products of Roorkee engineering college who had now "retired with ample means" to his ancestral house in Sikandarabad, district Bulandshahar, UP. The old house was the repository of a rare collection of Persian books and manuscripts by an ancestor, Mirza Ghalib's junior contemporary and friend, Munshi Har Gopal Tufta, himself a well-known poet. The collection came down to Bhatnagar who, in 1919, passed it on to the university library, Lahore. One of the rarities was "a Persian version of the Mahabharata for which Shanti Swarup received a small sum from the library authorities."

#### SCHOOL EDUCATION

In the comfortable, albeit sheltered and secluded, atmosphere of his grandfather's house, Shanti spent his first thirteen years. Henceforth he would pay for his education himself, by winning scholarships and giving private coaching. In 1908, Rai Sahib Lala Raghu Nath Sahai, Parameshwari Sahai's childhood friend and soul-mate and Shanti's future father-in-law, took the young lad under his wings. How this happened is an interesting story. Raghu Nath Sahai accompanied by his son Bishwa Nath Sahai travelled from Lahore to Panipat to attend a wedding. "Those were the days when young children from the groom's side and from the bride's side used to participate just before the marriage, in a competitive spirit, in a function called *Ghazal-Khwani* [Ghazal recital competition]. Young Shanti Swarup was found quite outstanding in this competition. Mr Bishwa Nath Sahai, who was a graduate in psychology, gave an IQ test to young Shanti Swarup and found him much above average. He brought this to the notice of [his own father] R.S. Raghu Nath Sahai, who immediately made enquiries regarding the boy and found to his great joy and surprise that Shanti Swarup was the son of his very dear lamented friend Parmeshari Sahai. Soon R.S. Raghu Nath Sahai made up his mind to take Shanti Swarup to Lahore for proper care and better schooling."<sup>1</sup> Here Shanti joined Dyal Singh High School of which Raghu Nath was the headmaster. (Dyal Singh was a prominent

landowner and a leading light of the Brahmo movement in Punjab. He also founded the influential English paper *The Tribune*.)

At school, Shanti developed an absorbing interest in science, “delighting in scientific experiment”. “Whenever boys in senior classes failed to answer questions in science, he was sent for and invariably gave the correct answers. As a reward, he was asked to box the ears of senior boys.”<sup>2</sup> He “contrived for himself a crude laboratory in one of the galleries of the School Hall and had stocked it with old tubes, broken flasks, batteries and any useful thing that by hook or by crook could be got hold of.” “Then, it is said he gave some chemical preparation as hair tonic to his mathematics teacher, Mr. Ram Narain Gupta. To the latter’s shock his hair turned white prematurely. Shanti Swarup was given a few cane strokes as punishment. Later on, Mr. Gupta used to proudly say that his cane can work miracles and can send a student abroad.”<sup>3</sup> The teachers often complained to the headmaster that Shanti “was a great trouble to them, perpetually plying them with questions; that he was restless in the class room and always too ready to retort when admonished.” In 1911, the schoolboy Shanti published a letter to the editor in *The Leader* (Allahabad) on how to make a substitute for carbon electrodes in a battery, by using molasses and carbonaceous matter under pressure and heat (Attempts to trace the letter have so far been unsuccessful). Significantly, 31 years later, Bhatnagar returned to the problem in his laboratory when material

for making electrodes could not be imported because of the second world war.

On matriculation in 1911, he moved on to the newly opened Dyal Singh College on a university scholarship. A lasting influence on him here was the theatre personality, Irish-born Norah Richards (1876-1971), whose husband Philip Ernest Richards came from the Unitarian Ministry in England as the Professor of English literature and whose duties included “free-thinking religious discourse.” Having been a successful stage artiste herself, under her maiden name Norah Mary Hutman, she encouraged students not only to perform the plays that were “prescribed for academic study” but also to write original ones. In the spring of 1912, the Irish play “Spreading the News” by Lady Gregory “of Abbey Theatre, Dublin fame” was performed at Dyal Singh College, in which “the deaf apple-woman was played by S.S. Bhatnagar with much drollery” (as Norah Richards recalled later). The same year, Norah Richards initiated an intra-college one-act play competition in which Bhatnagar’s Urdu play *Karamat* (pronounced *karaamaat*, “miracle”) won the first prize. The play “satirized the clash between scientific and superstitious methods of healing”. Norah Richards declared it to be “pure Bhatnagar!” “The play was however banned by an over-cautious principal lest it offended local sentiments”. In 1915, Norah Richards founded an inter-collegiate Saraswati Stage Society with herself as the president and Sir Rabindra Nath Tagore as one of the associates. Bhatnagar by then in

Forman Christian College was among the honorary members. *Karamat* was enacted by the Saraswati Society.

Bhatnagar was greatly inspired by his professor, N.N. Godbole, whose enthusiasm for indigenous industrial products he imbibed. Bhatnagar in fact contributed an article on “Fermentation phenomena of pomegranate juice,” in a magazine aptly called *Raushani* (light) brought out by the Society for Promoting Scientific Knowledge launched by Lahore Medical College students.

(Bhatnagar remained in touch with Norah Richards through out his life. She left for Europe in 1920 on the death of her husband only to return in 1924 for good. Eventually she settled on a 15-acre property in a small village Andretta near Palampur in the Kangra valley (now in Himachal Pradesh), where she remained till her death. Norah Richards wrote Bhatnagar’s biography during January and February 1944 while staying in his house in Delhi. “Originally a commission from a Biographical Research Society in America, it missed the last date for sending in... Two abortive attempts at publication were then made, one with an English firm in India and one in Britain.” A Lahore publisher showed interest, but nothing came out of it. Finally the biography with some additional material was published from New Delhi in 1948. This affectionate and leisurely biography written with full cooperation from Bhatnagar remains our primary source of information on his personal and family life.)

**HIGHER EDUCATION**

In 1913, after finishing his intermediate examination in first division, Bhatnagar joined Forman Christian College, “where he did not allow any distractions from his studies in Science”. His unexceptional quest for knowledge produced rather unexpected results. When he sat for his B.Sc. examination in 1915, he flunked in the subject his name is now associated with: chemistry. One of the questions dealt with the nature of X-rays, discovered ten years previously. Bhatnagar, on the authority of the books he had read, wrote that X-rays could be reflected, refracted and polarized just as ordinary light. This however went against what was written in the textbook, the examiner’s touchstone. (Did the examiner know that Bhatnagar was right but felt that he himself was duty bound to go by the textbook? Or did he genuinely believe that the textbook was right?). Bhatnagar eventually got his degree next year, with honours in physics.

In retrospect, the incident of Bhatnagar’s flunking the B.Sc. examination looks mildly amusing. But in its time it increased his difficulties. The more so, because he got married, in May 1915, to Raghu Nath Sahai’s daughter, Lajwanti, who had received her early education in Dyal Singh High School, “which was purely a boys’ school” and where her father was the headmaster. “Kumari Lajwanti would go dressed as a tomboy with a *Salma Sitara* [decorated] cap.” Throughout his college days, Shanti remained in straitened circumstances. As an undergraduate he had

earned his examination fees by making an inventory of the contents of the Forman Chemical Laboratories. During this period, financially and professionally rewarding was the consultancy work he did for a leading Lahore stationer who could not import gelatin duplicating pads from Germany because of the war. The problem was referred to Bhatnagar by his chemistry professor and the solution fetched him the welcome sum of Rs.150.

After completing his B.Sc. in 1916, Bhatnagar took up a job as demonstrator in physics and chemistry in Forman Christian College, moving on to Dyal Singh College as a senior demonstrator in chemistry. Youth and love saw the couple through difficult times. They lived in a hired two roomed first floor tenement within the school campus. He took up private coaching to augment his meager income as a Senior Demonstrator at Dyal Singh college. "After college duty he would rush to the hostel of Chief's College, to tutor his ward. He had to do nearly 20 miles up and down on bicycle and would be quite late for his dinner with his newly married wife. Her pleadings with him to return home not so late did not cut much ice with him. One night to his great surprise he found the staircase bolted from inside. After knocking for some minutes, he could sense the purpose of his young wife. Nobody could however outdo this clever young husband. Adjacent to his house there was a peepul [*ficus religiosa*] tree with a high platform around it. Shanti Swarup just climbed it and jumped from its branch over hanging the back yard of



his house and very lovingly woke up Lajwanti who had dozed off.”<sup>4</sup> In 1917, he studied for his M.Sc. as a private student. Then for the next two years he worked from the Forman College, receiving instruction from professors of the Government College under the scheme of inter-collegiate post-graduate teaching. He obtained his M.Sc. degree in 1919, taking three years as he had done for the B.Sc. As part of his degree requirements, he studied the surface tension of water.

The next two years, 1919-1921, Bhatnagar spent at the University of London earning his D.Sc. degree on surface tension of oils, under the supervision of Prof. F.G. Donnan, FRS. This was made possible by the award of a scholarship by Dyal Singh Trust, thanks to the efforts of Prof. Ruchi Ram Sahni, a science professor at the Government College and a member of the Trust. (Sahni was the father of the well-known botanist, Birbal Sahni.) “It was during Bhatnagar’s first years in London that H.R.H the Prince of Wales visited University College and was shown over the Ramsay Laboratories by the Director. The Indian students five in number were at the time busy cooking their mid-day meal.... H.R.H. looked closely at the preparations and asked if he might have a taste. The students, thereupon, invited him and Professor Donnan to share their meal which they did.”

A travel grant from the British department of scientific and industrial research enabled Bhatnagar to visit France and Germany. He was in the group of fourteen research students from London University that

went to meet Prof. Walther Hermann Nernst (1864-1941, Chemistry Nobel prize 1920) in his laboratory in Berlin with a letter of introduction from Donnan, each name accompanied by nationality and research topic. Nernst himself came out to say no; he “would not like any Britishers to go round.” Later on a note came addressed to Megh Nad Saha saying that Nernst would allow the Indian students to see the laboratories because “the last blow to the British empire would come from India” (Ironically, the same Nernst took shelter in England in 1935 after fleeing Nazi Germany).

#### EMPLOYMENT

Bhatnagar returned to India in 1921 to take up a professorship at Benaras Hindu University on the invitation of the founder Pt. Madan Mohan Malaviya. Bhatnagar took over from one Prof. Mane, an undistinguished elderly person of about 55, who broke down while handing over the keys to the new man, because he had already held them for 15 years. Magnanimously, Bhatnagar permitted him to remain the head. “At the close of the meeting [of the Council] the professors, pleased at Bhatnagar’s action, gathered around him while Pt. Malaviya hugged him.” (What the Council thought of Prof. Mane’s attachment to the keys does not seem to be on record.) In Benaras Bhatnagar focused on pure research which stood him in good stead in his later industrial research. Interestingly, when he learnt about a fellow professor’s plagiarism,

Bhatnagar “leapt on him and gave him a good drubbing.” (The plagiarist later resigned.) While bidding farewell to Bhatnagar, Pandit Madan Mohan Malviya remarked that “whoever leaves Benaras has a seat reserved for him in heaven.” Bhatnagar retorted good-humouredly : “I agree with Malviyaji in the sense that Benaras town being so dirty that whoever leaves Benaras feels that he is going to a heavenly place.”

In 1924, 30-year old Bhatnagar took over as the director of the newly opened University Chemical Laboratories, Lahore, having been chosen in preference to his rather ineffectual European competitor who had been Bhatnagar’s teacher. Bhatnagar remained here till 1940. The laboratories addressed problems in industrial and applied chemistry brought in by agriculturists and industrialists, such as Sir Ganga Ram, an engineer-turned neo-agriculturist; Lala Shri Ram of Delhi; J K Mills Kanpur; and Tata Oil Mills. The most celebrated consultancy, of course, was the solution of the mud problem brought in by Messers Steel Brothers & Co., London. The company, prospecting for oil in Punjab, used mud to lubricate its drilling jigs. However as soon as the mud came into contact with the underground salt deposits, it coagulated, bringing the operations to a halt. The other experts from the university, consulted by the company, suggested several “chemical” and “mechanical” methods which were all impractical. But “the theoretical chemist - Dr. Bhatnagar - insisted from the beginning that it was a simple problem in Colloid Chemistry”. He added an Indian gum to the mud so that

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it would not harden on contact with salt. The company was so pleased with the result that it offered Bhatnagar the substantial sum of Rs.1, 50,000. Consistent with the spirit of the times and his own idealism, Bhatnagar converted this personal offer “largely to the benefit of the University and research”, in the form of six research scholarships for five years. (Synergy with research has been the strength of Indian chemical industry ever since.)

#### **CSIR**

The first world war had given a chance to Bhatnagar to do a bit of consultancy on his own for a Lahore stationer. The second world war (1939-1945) provided him with an opportunity to build scientific infrastructure for the country. So far, India's industrial backwardness had been Indians' concern; war made it Britain's handicap. Export of raw material from and import of finished goods into India stopped. At the same time, India was called upon to take up the responsibility of “supplying the technical equipment of a modern army”. The government decided to tackle the problem of “shortages and substitutes and war requirements” in two ways: conducting research under its own auspices; and more importantly funding scientific and industrial research in centres outside the government system. It was a foregone conclusion that the British would leave India after the war. Indians were already in important positions in government as

well as in industry and science. Though still working under British auspices, the Indians sought to dovetail their country's post-independence interests into the British exigencies of war.

In December 1939 Dewan Bahadur Sir Arcot Ramaswami Mudaliar, commerce member in the Viceroy's executive committee, visited Bhatnagar's laboratory in Lahore, was impressed by what he saw, and advised the Viceroy that Bhatnagar be appointed to head the government's war-time science effort. Bhatnagar stipulated that he should have at his disposal a laboratory for research and that in addition his Lahore-based research students, funded by Messers Steel Brothers, be permitted to come along. This was accepted and in August 1940 Bhatnagar took over as Director, Scientific and Industrial Research. He was based in Alipore, Kolkata, where a pre-existing laboratory was refurbished for his use. (The laboratory was shifted to Delhi University campus in December 1942, in view of the threat of Japanese invasion.)

In the meantime, on 1 April 1940, a purely advisory body; Board of Scientific and Industrial Research (BSIR), was set up with Mudaliar as ex-officio chairman and a civil servant as the secretary. The Board would receive research proposals from research institutions, universities, industries and trades, and advise the government "whether these proposals were approved and if so what funds should be provided for carrying them out." A year later, on 14 November 1941, the government agreed to sanction an annual amount of

Rs. 10 lakhs for five years towards establishing an Industrial Research Fund for “fostering industrial development in the country.” What was now needed was a mechanism for utilizing this fund. Accordingly, on 12 March 1942 a legal entity called a registered society was set up in Delhi under the name Council of Scientific and Industrial Research (CSIR) with Mudaliar as the ex-officio founder-president. On 26 September 1942, the government transferred the control of the fund to the Council, at the same time making the Board an advisory body to it. (26 September is now celebrated as the CSIR foundation day.) In December 1943, the post of vice-president was created. Sir M.S. Akbar Hydari, ICS, served as the vice-president till 1946. The first vice-president after independence was Dr Syama Prasad Mukherjee who held office 1947-1950.

By virtue of his position in the government, Bhatnagar was the key figure in the Board and the Council. It is noteworthy that in the early years, formation of CSIR hardly made any impact. The setting up of BSIR was seen as a landmark, because it was the first time official funding was systematically forthcoming for research being carried out by individuals and organizations outside the government system. CSIR was seen merely as a clearing house. It is only much later when national laboratories were established that CSIR came to acquire its distinctive identity. (Interestingly, Norah Richards’ detailed and authorized 1948 biography of Bhatnagar does not seem

to make any mention of CSIR.) From the point of view of later developments, an important date in the history of CSIR is 29 February 1944, when the government declared that “Rs. 1 crore will be forthcoming towards capital expenditure on a chain of research institutions.” The chain comprised five laboratories. Their foundation stone was laid between December 1945 and April 1947: Central Glass and Ceramics Research Institute, Kolkata (CGCRI), 24 December 1945; Central Fuel Research Institute, Dhanbad (CFRI), 17 November 1946; National Metallurgical Laboratory, Jamshedpur (NML), 21 November 1946; National Physical Laboratory, Delhi (NPL), 4 January 1947; and National Chemical Laboratory, Pune (NCL), 6 April 1947. Significantly for four of these, support was forthcoming from industry and trade. The house of Tatas gave a grant of Rs 8.3 lakhs for NCL, with the reasonable condition that it be located in Pune, within the Mumbai industrial zone. (The Tata suggestion that the laboratory be named after them did not find acceptance.) For NML, the Tatas donated 30 acres of land in their steel city Jamshedpur, backing the offer with a grant of Rs 11.7 lakhs. For CFRI located in the central Indian coal-belt, Raja of Jharia, Babu Shiva Prasad Singha, donated about 100 acres of land, which lay near the colliery of the Tatas as well as the Model Town being built by them. CGCRI received Rs 10,000 each from the Bengal and the UP glass manufacturers’ associations. CGCRI was headed by Dr Atma Ram, who began his career in 1936 as a chemical assistant at the much-maligned

Industrial Research Bureau, and later (1966-1971) rose to head the CSIR itself. For the futuristic NPL, Delhi was chosen in preference to Kolkata partly on the extraneous ground that this would enable the laboratory “to keep in touch with the government.”

Interestingly the Punjab government was keen to recall Bhatnagar after the war and make him the vice-chancellor of Punjab University, but the proposal fell through because of the disinclination of the Union government to relieve him. CSIR was transformed after independence by Jawaharlal Nehru, who made the Prime Minister ex-officio president of CSIR. (In this respect, CSIR is unique in the country.) The five laboratories sanctioned in 1944 were all opened between January and November 1950, led by NCL, Pune, which was inaugurated by Nehru on 3 January 1950, the occasion being provided by the holding of Indian Science Congress. Significantly the first laboratory planned after independence dealt with food, and, equally significantly, was housed in a palace. Thanks to the royal gift from government of what is now Karnataka, Central Food Technological Research Institute, Mysore (into which was merged the already existing Indian Institute of Fruit Technology) was ceremonially opened on 21 October 1950. During Bhatnagar’s tenure as the Director-General (as the post was later renamed), more specifically in the five-year span 1950-1954, as many as 14 laboratories were opened, acquired or had their foundation stone laid. (These include the five sanctioned before



independence.) Being the solitary scientific organization of its time, CSIR nurtured many initiatives. Thus, as early as 1946, it set up an Atomic Research Committee under the chairmanship of Dr Homi Bhabha, a step that culminated in the establishment of Atomic Energy Commission. It funded research on “biological aspects of atomic research”, and extended financial support to “the Research Institute of the Indian Academy of Sciences”, directed by Sir C.V. Raman. The building of Physical Research Laboratory, Ahmedabad, was designed by the Council architects. As a sidelight it may be noted that the 1000 – capacity auditorium of the National Physical Laboratory, Delhi, was a major addition to the capital’s culture life. It was opened in time (14 February 1952) for a violin concert by Yehudi Menuhin, visiting India on Nehru’s invitation. The auditorium also had the distinction of hosting Indrani Rahman’s first dance performance in Delhi.

Bhatnagar concurrently held a number of posts in the Government. In 1948 and 1949 he worked as Secretary to the ministry of education, and educational adviser to the Government of India. He was chosen to become the first secretary to the ministry of natural resources and scientific research, which was set up in 1951. He was also Secretary of Atomic Energy Commission and later became the Chairman of the University Grants Commission. He received a number of honours. In 1936, the British Government conferred on him the Order of the British Empire. A disappointed

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Bhatnagar was consoled by his friends that in his case OBE stood for Oil Borer of the Empire. A bigger honour came his way in 1941, when he was made the Knight Bachelor. From a scientific point of view, great recognition of his work came with the 1943 election as a fellow of the Royal Society of London. Independent India honoured him with a Padma Vibhushan in 1954.

#### THE END

A casualty of his hectic life was his health. While still in Lahore, he “accidentally exposed his eyes to some harmful radiation. As a result he was in great pain due to damage to his eye balls... In later year he had to use refined glycerine and rose water as prophylactic measure.” Heart was a bigger problem than the eyes. “Climbing up a stretch of hill, for attending the function at the Himalayan Mountaineering Institute of Tenzing Norgay, made him gasp for breath. Dr. B.C. Roy, who was already there, examined him and cautioned him not to be so indiscreet with his over-strained heart.” Bhatnagar died on 1 January 1955 after a massive heart attack. Maulana Abul Kalam Azad, whose feet Bhatnagar had touched in 1942 when the former was the Congress president and who now was Bhatnagar’s minister, remarked: “I often felt that the effect of such hard work might fell upon his health. In spite of my repeated requests, he would not, however, refrain from his hard work. Last year, we sent him out in connection with the work of scientific research. I extended his

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deputation by two weeks and asked him to take complete rest for a fortnight in Switzerland. I have no doubt that this passion for work reduced the duration of his life. Action was the breath of his life and he could not live without work.”<sup>5</sup>

Mahendra Nath Sahai, Bhatnagar’s nephew by marriage (see note 1) recalled on the occasion of Bhatnagar’s birth centenary, in 1994: “In his personal library, at his residence he had a large number of books from leading scientists from all over the world. There were a few books on other subjects such as psychology, English literature, Urdu poetry etc. There was a book on happy married life by Mary Stopes. Also books on palmistry by Cheiro and Benhem. I used to avail of this facility quite often. After acquiring some working knowledge of palmistry, one day I asked him to show me the palm of his right hand... The only strange thing about the palm was that his heart and head lines were completely merged forming a straight line right across his palm. Sensing that I was a little puzzled, he asked what was my interpretation? I quickly replied that this shows that he will put his head and heart together in whatever field of activity he undertook. He nodded to agree. Now it was his turn to have a look at my hand. He at once remarked that I had a girdle of Venus, and that the goddess of love will influence my life and advised that I should read Marie Stopes’ book in his library.”<sup>6</sup>

“He regarded palmistry and jyotish as empirical sciences and their followers as pseudo-scientist. I had

heard from some old and well read persons that “Bhrigu sanghyata” [should be samhita] written by Bhrigu Rishi was the last word in jyotish. Though he seemed to be sceptical about it, his curiosity was certainly aroused. He mentioned this to his cousin, Mr Keshav Sarup, who had a good knowledge of the Vedas. “Soon after, he was put in touch with a Bhrigu Sanghyata Pandit, who was furnished with the time and date of Bhatnagar’s birth. The Pandit unrolled a long long [sic] continuous paper strip. Finding the right text matching Doctor Bhatnagar’s particulars, he read out that within the next few months he [Bhatnagar] would be receiving some big honour from government. Doctor Bhatnagar told that the only big honour he could expect was a Knighthood but that would be after a few years rather than a few months. Keshav Sarup told me after several years that Dr Bhatnagar had his greatest surprise in the following month. Lord Linlithgow, on the advice of Lord Wavell the then commander-in-chief, had recommended Doctor Bhatnagar’s name for a Knighthood.”<sup>7</sup>

Bhatnagar was a romantic at heart. He nursed the hope that after retirement he and his wife would settle in a village where he would take to farming and she to gardening. He imagined he would be working in the fields when his wife brought his lunch, carrying a pot of butter milk on her head. Time left over from farming would be devoted to chemistry and “service of Urdu”. If chemistry was his passion, poetry was his retreat. From his childhood, thanks to the literary atmosphere in

his grandfather's house, he had enjoyed listening to poetry in "my own language" Urdu and took to writing it himself. While travelling on holiday he would compose verses on scraps of paper and pocket them. His wife shared his poetic interest. Often on Sundays, the Bhatnagars played host to poets, inviting them to recite their poems and actively participating in the proceedings. On her insistence he prepared his own anthology for publication, but tragic-comically it was mistaken for a money wallet and stolen by a petty thief from the person of poet Faiz Jhanjhaanvi.

On his wife's death in 1946, Bhatnagar was moved to discover that she had collected many of his poems and carefully preserved them. As a homage to her he got the anthology published, naming it Lajwanti after her, and giving his own name simply as Shanti (She had once expressed the poetic wish that if she were a book she would always remain in his sight). The anthology went into second edition in which some new poems were included (Nothing seems to be known about the original edition.)<sup>8</sup> "On the whole, his verses are topical, humorous and reflective. Those written after the loss of his wife bear a tender wistfulness and the stamp of loneliness."

#### Notes

Much of the information in this essay is taken from Norah Richards' biography of Shanti Swarup Bhatnagar, reprinted

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in the following. Official documents have been consulted on his CSIR days. This essay is an expanded version of Ref. 2

1. Narrated by Mahendra Nath Sahai, son of Bishwa Nath Sahai, whose sister Lajwanti was married to Shanti Swarup Bhatnagar. See Ref. 1, pp 12-13.
2. Ref. 1, p.13
3. Ref. 1, p.13
4. Ref. 1, pp. 14–15
5. Ref. 1, p.24
6. Ref. 1, pp 21–22
7. Ref. 1, pp 21–22
8. The above information is taken from the preface of Lajwanti; See Ref. 3.

#### **References**

1. Kayastha Bhatnagar Sadar Sabha Hind. Dr. Shanti Swarup Bhatnagar Centenary Year Celebrations (A-1, Ring Road, South Extension I, New Delhi 110049)
2. Kochhar, Rajesh (2002) Resonance 7, 82-89
3. Shanti (1946?) Lajwanti (in Urdu), 2<sup>nd</sup> edition (Lucknow: Naval Kishor Press) (No publication date is given, but forewords to the book are dated 1946)