

# CLASSICS



Our primary source of information on Prof. Ruchi Ram Sahni is his typed autobiography, copies of which have been available with his descendants. Because of typing errors, illegibility, and other disabilities, their use had so far been limited. Now, his great-granddaughter, Neera Burra (whose article appears elsewhere in this issue) has edited the complete autobiography which is very useful. The reference is as follows: Neera Burra (ed), *A Memoir of Pre-Partition Punjab: Ruchi Ram Sahni, 1884–1948*, Oxford University Press, New Delhi, 2017.

The following paragraphs are taken from the above reference the contents of which are consistent with and an improvement upon that of the typed manuscripts in private circulation. The page numbers are given at the end of the paragraphs.

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**Childhood, Dera Ismail Khan**

As an orthodox lady, my mother was fond of keeping fasts. There seemed to be too many of them. When I was quite a little boy, I would also insist on keeping fasts. As my mother observed them so scrupulously, I thought there was some virtue in keeping a fast and I would also insist upon following the example of my mother. My mother would say various things to make me give up insisting upon my request. But as I was still obstinate, she hit upon a clever proposal which I was simple enough to accept as a compromise. She said that I was a small boy, I may keep half a fast till I grew up. Under her instruction, therefore, on a fasting day I would very carefully put every morsel of food and every sip of drink into my mouth from the right-hand corner only. Similarly, on another fasting day, I would use only the left-hand corner of my mouth for swallowing food or drink. Small as I was I sincerely believed that I was earning at least half the merit of keeping fasts. It was a clever device indeed, which a loving mother alone could think of [p.34].

As for myself, there are only two little incidents of my early childhood that may remotely be taken to indicate a slight spirit of scientific curiosity in me. One of the toys that I used in my childhood was a baked clay, badly painted elephant or horse which continuously drank water at one end and discharged it at the other. In later years, when I was studying or teaching science, I named the toy 'the diabetic elephant' or 'the diabetic horse,' as the case might be. As a little boy, I did not know anything about the principle of syphonic action. I imagined that there must be some sort of mechanism hidden in the body of the clay toy to account for the ceaseless flow of water through it. Seized with this curiosity, the only use that I made of these toys was to make them drink and discharge water and then break them to pieces to see what kind of mechanism they concealed within their body. I cannot say how many of these toys I purchased only to break them, but the number must be very large, without being any the wiser at the end of my wanton handling of them all.

It was only when in the high school class at Lahore, when Mr. Staines, the Junior, who was our science teacher was explaining the principle of the syphon that I first understood, as if in a flash of new enlightenment, the working of my pet toys which had puzzled me so much many years earlier. The other incident refers to attempts on the 'growth' of shells and cowries. I buried a number of small shells and cowries in the wet ground below the wooden stand in our house that was used for earthenware water pitchers. Each stand carried two or three pitchers filled with drinking water. My objective of burying the shells in the wet earth directly below the pitchers was to see if they would grow in



size after lying there for several months...but no change in their size was noticed [p.19].

One day an old emaciated sadhu appeared at the outer door of our house and said he was very hungry. My father took him inside and asked him what he would like to eat. The sadhu simply remarked that he was hungry and it did not matter what he was given to eat. He was entertained as well as he could be at once. My father himself served him with great love and reverence. In such cases, he would seldom ask or even allow anybody else to help him. When the sadhu was satisfied he got up to go, but noticing a sick man lying on a *charpai* in the compound, he asked my father as to who he was and what the matter with him was. He was told that the sick man was his elder brother who had been long suffering from piles. The sadhu then said he would go to the river side and bring a *buti* (herb) which would cure him completely. No one thought much of him excepting my father who said, "These men roam about all over the world and know of special medicines for chronic diseases of this kind." My father was right. The sadhu returned the next day with leaves of some herb which were blended with a few pepper seeds and a little water, and given to my uncle, Lala Shankar Dass, to drink. The sadhu took my elder brother to the riverside and showed the herb growing. The medicine was to be given to the patient once every day for four or five days or a week. The sadhu went away, but the medicine was continued. It proved to be a miraculous remedy for chronic piles. The Sadhu never came again but my elder brother Diwan Dahnpat Rai used to give this medicine to people suffering from piles with never failing results. I myself got the medicine from him for two or three people in Lahore and in everyone of those cases it succeeded wonderfully well in curing the patients. I asked my brother to send me some of the plants to be identified. He promised but delayed and delayed and, unfortunately, with his death the secret of the herb was completely lost [pp.31–32].

### **Becoming Ruchi Ram**

I appeared before the Headmaster of the high school at Adhiwal mid-way between Jhang and Meghiana, a distance of about two miles. Here I was confronted with two difficulties. One was that I was joining the school more than two months after the class had started their new course of studies. This objection I soon got over by assuring Babu Kashi Nath Chatterjee that I would work hard and make up my deficiencies, and that, if I failed to overtake my class by the end of October next, my name may be removed from the register. The other difficulty raised by the Headmaster appeared more serious. I was told that I could not be admitted because my name Rochi Ram, (as I was then called), made no sense. "There was no such words as Rochi" said Babu Kashi Nath in any language and he would not admit a student into his class with a meaningless name. He appeared



to be quite serious about what he said, and although I pleaded very hard and piteously begged for his kindness to admit me, he would not relent. Day after day I would go up to him, sometimes alone and at other times in the company of Neba Ram, and make my apologetic and humble entreaties to him. Three or four days had passed in these fruitless attempts when one day he himself suggested that if I changed my name to Ruchi Ram, he would take me. I did not take a second to say, “yes sir”. Thus, the second difficulty also got over. ‘Ruchi Ram’, explained Babu Kashi Nath, was one who had this (heart’s) desire fixed in Ram. Kashi Nath was, as I discovered afterwards, a most charming and witty teacher and the apparent trouble over my name was only one of the pleasantries in which he was fond of indulging occasionally [p.76].

### College Days, Lahore

In addition to the college debating society, a few of us had started a private club of our own. One day Guru Datta offered to open the meeting with a speech on ‘the ether’. Some of the other members of the club were, of course, also expected to speak on the subject. Now, ‘the ether’ or rather ‘the luminiferous ether’ was a difficult subject for a talk by college students. How could Guru Datta have taken up such a subject for discussion? The ‘electric waves’ or the ‘Herzian waves’, had not yet been discovered. Indeed, all that we students knew about ‘the ether’ at the time was that the existence of such a medium had to be assumed to account for the passage of light through space. I was convinced that Guru Datta had got hold of a statement by some great physicist and that he was going to reproduce it from memory. *Nature* was the only scientific journal that was received in the college reading room. This journal I used to subscribe to for myself in conjunction with my friend Raj (afterwards R B Hem Raj of the Meteorological Department Simla), father-in-law of Prof. G S Chawla. I saw Hem Raj and asked him if he had read anything about the ether in *Nature* or anywhere else. He did not remember about it, but looking through some issues of the journal that he had with him, we came across an article contributed by Prof. Tyndall. Knowing Guru Datta as we did, we came to the conclusion that he would reproduce Tyndall’s own paper. We both attended the meeting. I took the tell-tale copy of *Nature* with me concealed under my coat. As we had exacted, Guru Datta, reproduced Tyndall’s paper without a word of acknowledgment. Now, when my turn came to speak, I said something to the following effect: “Gentlemen, I congratulate my friend for the learned lecture he has delivered. The subject is so difficult that even now I do not clearly understand much of what has been so elegantly explained to us by our friend, the speaker. But whether I understand it or not, I am going to perform a miracle by reproducing the whole in print here and now”. With these words, I pulled



out the copy of *Nature* from underneath my coat and began to read it. This gave rise to laughter and a great deal of good-humored mirth and youthful pleasantry [pp.134–135].

### **Meteorologist Trainee and Casual Student, Calcutta, January – March 1885**

At the Presidency College, among several other men who afterwards made a mark on the public life of the country, I made the acquaintance of (Sir) Asutosh Mukerji. He was my contemporary, being in the M.A. class in mathematics while I was, as I have already said, studying for my final examination in chemistry under (Sir) Alexander Pedler, FRS<sup>1</sup>. The Bengalis of those days most keenly felt (I am using the superlative deliberately), their task lack of military training. I was frequently taken out from my Brahma Samaj Hostel by Asutosh Mukerji and others for an evening stroll to tell them something about the military exploits of Guru Govind Singh, Ranjit Singh, Hari Singh Nalwa, and others [p.154].

During the several months that I spent in Calcutta, I did not even once notice two boys pounding each other in the streets – a spectacle that one might see in the course of an hour’s walk through the Bazaar of Lahore [p.155].

He (Prof. Alexander Pedler) used to get samples of wines and other commercial commodities for analysis from big local firms. The analysis was seldom done by the Professor himself. As a rule, he would pass on the stuff to his Laboratory Assistant, one Mr. B., an M. A. in chemistry and clever at lecture-table experiments. While I was at the Presidency College, Mr. B would frequently ask me to carry out the analysis which I was only too glad to do. The arrangement suited everybody. I got valuable experience, Mr. B kept the wine bottles – a very small quantity of the wine being required for the actual tests, and the payment of Rs. 32 for each analysis went into the pocket of Prof. Pedler [p. 155].

No less beneficial was my regular attendance at the lectures on popular science at Dr. Mahendra Lal Sircar’s Institute. It was these lectures that led me and Prof. J C Oman to start the Punjab Science Institute at Lahore. It was at Dr. Sircar’s Institute that I first saw Dr. Jagadish Chandra Bose. He gave a lecture on ‘Energy’. It was illustrated by many experiments, but there was nothing very fascinating about them. Dr. Bose had then just joined the staff of the Presidency College. He was a thin man and spoke slowly with deliberation and a certain amount of hesitancy. I very well remember him as he appeared on the platform wearing a silk embroidered black cap [p. 156].



### False Point Cyclone 1885

The most important event of my career in the weather office was the action that I took, entirely on my own responsibility, in issuing the immediate danger signal to all the port stations in northern Bengal (Orissa was then part of the province) to hoist the red ball. While going to the office in the morning, I called for, as usual, the weather reports as had been tabulated. On examining them, I noticed that Diamond Harbour had reported an unusually rapid fall of atmospheric pressure. There was nothing in the reports from the surrounding stations to explain or support this. I was alone at Simla at the time, both Mr. Henry Francis Blanford and Mr. W L Dallas having gone down to Calcutta. I had an urgent telegram sent to the 'Observer' at Diamond Harbour asking him to send me a fresh report of the latest readings. This report confirmed my original suspicion that a big storm was approaching. I then asked him not to leave the observatory till further orders, and to keep sending me half hourly reports on the weather. A little later, I asked two or three of the other neighbouring stations also to do the same. Meanwhile, I was also making a hurried study of the reports of previous big storms. It was only when I was quite convinced in my mind that a big storm was approaching the coast that I issued the immediate danger signals.

This done, I sent a long wire to my chief at Calcutta about what I had done and reproducing the important features of the special reports that I had obtained. I afterwards learnt from the office men at Calcutta that for a few minutes after the receipt of my telegram, Mr. Blanford felt seriously perturbed and upset. He at once ran to Mr. Pedler and asked him if he knew of anything of a big storm in the Bay. Mr. Pedler was the Provincial Reporter for Bengal. In this capacity, he used to get all the reports or the Bengal stations which were nothing but duplicates of the morning reports that were sent to Simla for the daily weather report. Mr. Pedler knew nothing of the storm. In fact, he had not till then even looked at the reports. As I have said before, Mr. Pedler had too many irons in the fire. On the suggestion of Mr. Blanford, Mr. Pedler sent out orders to the affected stations to repeat the telegrams they had been sending to me. By this time the storm had very much increased in intensity and had invaded the coast. Then the report that had roused my first suspicion reached me; the storm was yet at some distance from the land. Everything showed Mr. Blanford and Mr. Pedlar quite convincingly that I was correct in my judgement and that the orders that had issued were quite justified. I think this was the storm that subsequently became the subject of a big paper under the title of the False Point Cyclone. I suppose a native was not considered to be a fit person to write the paper<sup>2</sup>.



### Science Popularisation in Punjabi

One thing more I should like to mention here for the benefit of the specials were never tired of opposing in the meeting of the universality or outside all proposals for making Punjabi and other vernaculars the medium of collegiate instruction. At the garden party to which I have just referred, I first explained to the assembled guests, the benefits of the 'wireless' in English. But as there were some big *rais* men who did not know that language, His Honour asked me if I could explain the same thing in the vernacular. I agreed and repeated my explanation in the Punjabi language. When I had finished, His Honour turned round and asked Mr. Madan Gopal, M.A., Bar-at-Law, a leading lawyer of the time, if, in his opinion, I had succeeded in making myself clear to the old, conservative gentlemen. "Your Honour" replied Mr. Madan Gopal, "the fact is, I myself have been able to understand it better in Punjabi, than when the explanation was given in English. Mr. Madan Gopal was not a Punjabi gentleman but hailed from Delhi [p. 245].

### Instrument Maker and Business Man

By the beginning of the closing decade of the last century, my (private) workshop had, despite all my self-restraint, developed into a small but well-appointed institution, both as regards to appliances and the workmen, for the manufacture of a decent set of scientific apparatus. Our progress surprised every body, myself most of all. I decided to pay a visit to Bombay during my summer vacations. I had somehow or other saved about a thousand rupees in the hope of being able to buy something that might cover at least part of the travelling expenses. I took the whole of my 'capital' with me.

I have yet to mention another incident when under very strange circumstances, luck threw a present of no less than Rs. 3,000 into my lap. It is an old habit with me that when I go to a new place, I reserve a day or two, if possible, for rambling through the streets at random. Now, it was on one of these tramping days when it was raining hard that I saw a promiscuous crowd of people inside a shop. Looking more for the sake of taking shelter rather than any purchases, I noticed that a public auction was going on. A firm of scientific instruments had gone into liquidation, and its stock in trade was being disposed off to the highest bidders. A Parsi auctioneer was holding three small metal cups shining like white silver and shouting out the last bid, four rupees. Any more bids, four rupees! Advancing towards the man, I asked him if I could have a look at them. As soon as I saw the shape and the colour, and felt the elasticity of the cups. I knew at once what they were. Only a fool could have made a mistake about them. I returned the cups, and at the same time, I gave my bid for six rupees. A man standing next to



me was surprised at this sudden jump and told me in low voice, "If you think they are made of silver, you are mistaken." "No" said I, "they are not made of silver but of gold". The auctioneer demanded a cash deposit before he could accept my bid. I pulled out seven one hundred rupee notes from an inner waist coat pocket and handing over one of them to him I said, "Keep this, I may buy some more things also". I heard several persons round about me expressing surprise at my manner, and when I told them that I was going to spend all the money I had with me in Bombay, I could hear a litter of 'a mad man' among the people near about me. This was a turning point in my favour. No one would bid against a 'mad man'. The three platinum crucibles for such in fact they were knocked down in my name for Rs.6/-. I secured them in my waist coat pocket. Many more sorts of scientific apparatus followed. These included about twenty platinum plates for Grove's battery cells. All or most of the lots were crowded down in my name for a total sum of Rs.124. I had everything safely packed in my own presence (with the exception of the platinum articles) and saw them dispatched by railway to my Lahore address.

On my return home, I disposed off most of the things at about half the English prices. Most of the platinum plates and the crucibles I sold at about 75 percent of the market price. At a modest estimate, I made a net profit of at least Rs. 3,000, out of a 'mad man's bargain'. The whole of this money was credited to the workshop funds and went to swell the initial working capital of the institution [pp.254–257].

### **Swimming Against the Current of Racism**

It was a strange state of pain and agony in which I found myself. "Who is this man, Jones?" I said to myself, "to sit in judgement upon me and my abilities"<sup>3</sup>. But the thing had been done, and both the Principal and the Director of Public Instruction had unhesitatingly put the seal of approval upon what Mr.Jones represented to them. I was in intense agony at the thought that my lifelong service should have been brushed aside under some report of a young man simply because he was an Englishman. And then suddenly, I burst out with the following words which I uttered again and again as I walked up and down the room: "Am I a live fish? Am I a dead fish?" Then after a few minutes, I said to myself: "I am a live fish, I can swim up the current. I shall swim up the current. I am a live fish" [p. 296].

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<sup>1</sup> It has been presumed that Sahni obtained his postgraduate degree from the Calcutta



University. Records of the Government College, Lahore show that Sahni passed M.A. in chemistry and physics on 9 December 1885 from Punjab University, Lahore. (See Hus-sain, Syed Sultan Mahmood, *50 Years of Government College, Lahore, 1864–1913*, (Lahore: Izhar-sons), p.73, 2005

<sup>2</sup>This was Pedler's well-cited report published as *Indian Meteorological Memoirs, Vol,IV, Pt II*. Predictably, the 80-page report does not refer to the circumstances of the cyclone's prediction. True to pattern, we know of Sahni's contribution from his own memoirs; the colonial-time records do not seem to mention his name. (R Kochhar, Professor Ruchi Ram Sahni (1863–1948): A scientific biography, *Physics News*, Vol.43, No.1, pp.19–35, 2013. Read at:

<http://rajeshkochhar.com/professor-ruchi-ram-sahni-1863-1948-a-scientific-biography/>)

<sup>3</sup> The young Bernard Mouat Jones was the British chemistry Professor in the College and therefore senior to Sahni. He later became the Vice-Chancellor of the University of Leeds.

