

P. K. Sethi (1927–2008)

Pramod Karan Sethi was born on 28 November 1927 in Varanasi. His father, Shri Nihal Karan Sethi was Professor of Physics at the Banaras Hindu University (BHU) since its inception in 1916, and a close associate of Pundit Madan Mohan Malaviya, the founder of the institution. Sethi once told me that in 1930, Malaviya called his father and told him that with his emoluments at the BHU, it would be difficult for him to marry his six daughters. So he should go to Agra College, Agra, where he would be better paid. That is when Sethi moved to Agra. Sethi had attended St. John's School (1932–33), Balwant Rajput Intermediate College (1934–42) and Agra College (1942–44).

He did his MBBS from Sarojini Naidu Medical College in 1949 with honors in surgery and six other subjects, and in 1952 passed his MS in General Surgery from the same institution. In 1954, he became a fellow of the Royal College of Surgeons. On his return to India, Sethi obtained the position of Lecturer in Surgery at the SMS Medical College and Hospital, Jaipur and rose to become Professor and Head of Department of Orthopaedics, and Director of the Rehabilitation Research Centre, SMS Hospital, a position he held till his superannuation in 1982.

Pramod Sethi used to tell us that he often met his amputees whom he had fitted with prosthesis, but who were not wearing the same, and soon realized that the reason was the foot piece, which did not fit their milieu. He set out to solve the rural patients' need for a foot that would look like a bare foot, would be waterproof, and durable and flexible enough to allow for ease of walking over uneven ground and for its wearer to squat and sit cross-legged. Finally, it should be made of inexpensive and readily available materials. Thus began the journey of the development of the Jaipur foot. He first tried to modify the SACH foot then in vogue, but even after numerous modifications, nothing satisfactory emerged. Finally, the SACH foot assembly was eliminated completely and different components were used. The final product had flexibility and resilience, simulated subtalar, ankle and torsional movement, and was also durable. Sethi once asked me why tyres were only black, and then

explained that carbonized rubber has the least wear rate. That is why the sole of the natural-looking Jaipur foot is still black. Sethi presented his first scholarly paper on the Jaipur foot at the Association of Surgeons of India's annual conference held in Bangalore in 1970. The following year, he presented a paper on the modification for Syme's amputees. That same year, Sethi reported on the



foot at a meeting of the British Orthopaedic Association at Oxford, England and received a standing ovation. The Western India Orthopaedic Society presented Sethi with a Gold Medal in 1973. In 1974, international attention was again called to the foot when Sethi was asked to give the lead talk at the First World Congress on Prosthetics and Orthotics held in Montreux, Switzerland. He told me about an interesting episode of his visit to Switzerland. His baggage got lost in transit and so did his slides. Sethi made freehand sketches and proceeded to make the presentation.

He received numerous accolades for his pioneering work, namely Padma Shri (1981), Ramon Magsaysay Award (1981), Guinness Award for Scientific Achievement (1982), D Sc (*Honoris Causa*), Rajasthan University (1982) and R. D. Birla Award for Outstanding Medical Research (1983). Sethi was invited to deliver the Gandhi Memorial Lecture at the Raman Research Institute, Bangalore in 1988 and was elected as a Fellow of the Indian Academy of Sciences (1989). He was awarded the Knud Jansen Medal and Oration, World Congress in Prosthetics and Orthotics, Kobe, Japan (1989). He received the Dr B. C. Roy National

Award as Eminent Medical Man (1989), and an Honorary Fellowship of the Indian Orthopaedic Association (1999).

However, Sethi was not thrilled by the technical virtuosity of the design features of the Jaipur foot. He opined that better designs would soon overrun it. For him, it represented the first major departure from looking to the West for direction and inspiration. 'It has also taught us that demystification of professional knowledge is a powerful tool to allow us to draw on a very large reservoir of talents, residing in our highly skilled craftsmen in our rural areas'. Not that he was tethered to traditional concepts and despised modern developments. We often asked him why we were still into aluminium sockets when the world was going plastic. He would just smile and point out how easy it was to fabricate the aluminium socket, to mould and alter it, to weld and repair it if it broke, even for the village blacksmith. 'Can you do that to your polyethylene or polymer socket?', he would ask.

Sethi's desire and hope was that the Jaipur model of uniting the skills and services of doctors, craftsmen and volunteers be duplicated throughout India, so that the handicapped can be served closer to their homes. Village artisans should be trained in simple lessons and allowed to deal with his village amputees. 'The problem is not of several million disabled and amputees in the country', he would point out. 'It is the problem of two or three in each village. That is the way to look at it and solve it'. It was the slow desertion of this vital concept that alienated him from a movement so close to his heart.

He was a surgeon par excellence. Once when I was assisting Sethi at surgery, he asked me 'What are the qualities of a good surgeon?'. As he was always wont to do, he never gave the answer. He referred me to a book, *Surgery Heterodox and Orthodox* by W. Heneage Ogilvie. The qualities listed by Ogilvie fitted PKS, as we his postgraduates affectionately called Sethi in private, to a T. 'In judging a surgeon we must consider qualities of the head, the heart and the hand', Ogilvie wrote.

Sethi's excellent professional knowledge was indisputable. He spent at least one or two hours every day in the Robert

Heilig library of SMS Medical College, the largest medical library in Asia at one time. He was an avid reader. He was a member of an elite Book Lovers club which included several luminaries such as Daya Krishan, Unnithan, Mukund Laal, Loknathan, Rao, Hemlata Prabhu, and Anil Bordia. This diverse group met once a month to review a book, be it the latest bestseller, fiction or nonfiction, on literature or arts, metaphysics or philosophy, on management or behaviour, and so on. According to Bordia, Sethi was the only one who constantly read the book to be reviewed, and moreover he was the one who consistently bought the book to read it.

As a teacher, Sethi had few peers. 'The relationship to be sought is not that between master and pupil, but between master craftsmen and apprentice', and so it was with PKS. He would set us problems and tasks, and indicate a line along which they may be approached, no spoon-feeding but was ready to help not when difficulty arose, but when he was sure that an earnest attempt had been made to solve or accomplish them.

The first qualities of the heart, a surgeon must possess, and which Sethi did in ample measure, was humility. It was reflected in his response to the citation for the R D Birla National Award, which seemed to come straight from the heart. 'The R. D. Birla Smarak Kosh has honoured our small team of doctors and artisans and the community of my town of Jaipur, without whose help and contribution it would not have been possible. For years our work went unnoticed because there was nothing exotic or glamorous about the simple, almost austere technology which was associated with it... the present award has lent credibility and legitimacy to the kind of clinical research which is meaningful and relevant for our country's needs. Hopefully our research institutions and planning bodies would now be compelled to carry out some hard reappraisal of their priorities'.

The perfectionist that he was, Sethi was not given much to writing, for it took time to produce a perfect masterpiece of an article. He was kind enough to pass on some of these gems to me. One of them entitled 'Orthopaedics in an

unjust world – Whither Indian orthopaedics?' was published in the *Indian Journal of Orthopaedics*, 2004, **38**, 216. The second 'The doctor in the 21st century' was published in the Seminar, 500, April 2001. It truly reflects his philosophy, and needs to be emulated by all of us.

Sethi had a versatile personality, coupled with a charming and pleasant countenance. Many of his postgraduates joined orthopaedics not out of a genuine love or craze for the subject, but because of his charisma. I was one of them. In the words of William Shakespeare in his play *Julius Caesar*, 'Here was a Caesar. When comes such another?'.

P. K. Sethi passed away in the early hours of 6 January 2008. He is survived by his wife, three daughters, and a son.

RAKESH BHARGAVA

47, Moji Colony,
Pradhan Marg,
Malviya Nagar,
Jaipur 302 017, India
e-mail: prof.rakesh@gmail.com

Jagannath Ganguly (1921–2007)

Jagannath Ganguly, an outstanding biochemist belonging to perhaps the first generation of biochemists of this country, passed away peacefully at the age of 86 on 12 December 2007 in Bangalore.

John Ganguly, as he was addressed by his close friends and admirers, was born in the small town of Serajganj, his ancestral place in Pabna District, East Bengal under British India on 1 April 1921. He had his early education in his native town and obtained B Sc degree in first class in 1940 from Pabna College, affiliated to Calcutta University. He took up a job as a clerk in a post office in Darjeeling. It was perhaps providential that he met Haridas Bhattacharya, an eminent professor of comparative religions and philosophy, and Provost at the Dacca University, who was on a holiday in Darjeeling in the summer of 1941. Bhattacharya persuaded him to join Dacca University – one of the best centres of higher education at that time. Ganguly passed M Sc in chemistry with first class first rank. One of his M Sc viva voce examiners, S. N. Bose (of

the famous Bose–Einstein equation) was much impressed with his performance and suggested that Ganguly should



pursue his career at the Indian Institute of Science (IISc), Bangalore. He put Ganguly in touch with J. C. Ghosh, then the Director of IISc. Thus began what was to be an illustrious academic journey

of Ganguly at IISc from 1944. Having already come in contact with K. P. Basu (an associate of Warburg), Ganguly took up biochemistry instead of continuing with pure chemistry. He secured the Lady Tata Scholarship and started working on the nutritive value of soybean milk, a problem that apparently did not excite him much. He decided to go abroad, got the Government of India Overseas scholarship and left for the National Institute of Research in Dairying at the Reading University, UK in 1946. There, he carried out pioneering work on establishing the conversion of beta-carotene to vitamin A in the intestine itself, but not in the liver as it was believed at that time. He had also shown the enzymatic hydrolysis of vitamin A esters in the intestine and received Ph D degree in 1949 for that work. During this time India had attained independence, also leading to partition of the country and Ganguly's native place became part of East Pakistan (now Bangladesh). Consequently, his family had to leave Serajganj for Cal-