Mathematics: the teaching dimension

The article by J. W. Dauben and R. Parikh[1] is a well-documented account of the initial stages of development of modern mathematics under the British rule. The symbols of development naturally centred on some prominent personalities with a huge stake in mathematics. Srinivasa Ramanujan was brilliant and any attempt to fathom his contribution would be inadequate. A short but delightful account of Ramanujan is given by Balaram[2]. Some of the important personalities responsible for the initial stages of development of mathematics in the country were Ganesh Prasad, V. V. Narlikar, N. R. Sen, A. C. Banerjee, G. S. Mahajani, R. Vaidyanathaswami, T. Vijayaraghavan, D. D. Kosambi. There also emerged some key figures at the administrative level who played prominent roles in building up academic bodies in the country which lend long-term visibility to this universal *science*: V. Ramaswami Aiyar, founder of the Indian Mathematical Society and a journal by its name (later supplimented by the *Mathematics Student*) and Sir Ashutosh Mukherji, founder of the Calcutta Mathematical Society, which was the fore-runner of some of the finest publications in the field of mathematical statistics.

Despite an elaborate description of several aspects of mathematics development during its formative years, the article[1] falls short of a vital sector: the teaching of mathematics. To some extent this is inevitable, for while research in mathematics lends itself readily to a quantitative description through journal publications, the same is unfortunately not true of its teaching dimension whose progress remains largely intangible for lack of a yardstick for an equally quantitative measure, even in today's advanced technology, let alone during its formative years in British India. On the other hand, there can be no denying that the bulk input of mathematical talent had to come from teaching of the subject at the successive levels up to graduation and post-graduation. In this respect there must have been a spectrum of teaching standards in the initial stages (and even now!), centred around the average level. And yet within this spectrum there might have been many islands of excellence involving both teachers and learners (they were not easily identifiable). It must be remembered that the emoluments in teaching sector had always been

notoriously poor, yet it could have been a miracle (perhaps devotion to the subject) that might have kept the teaching community going despite all odds.

It is only in recent times (after the Independence) that there has been recognition of teaching talents by the present mathematics community (itself a big one) as a tribute to their teachers of the pre-Independence era. In the present instance, the 'tribute' was organized by (late) M. K. Singal under the auspices of the Mathematics Association of India (a subsidiary of the Indian Mathematical Society), that started on 13 April 1978, and continued every year on the same day until his death in 2006. The function was entitled 'A Date with Mathematicians' and consisted primarily of memorial lectures by prominent mathematicians/physicists on topical subjects in honour of some prominent 'teachers of the earlier generation': Jatindra Nath Mitra, Ram Behari, B. R. Seth, P. L. Bhatnagar and D. S. Kothari. Another aspect of tribute was to felicitate some prominent mathematicians of yester-year, led by Hansraj Gupta (for details see Mitra *et al.*)[3].

Mahendra Kumar Singal was a sound mathematician, an excellent organizer, a humane personality and a good friend. His premature death has left a void not only in his immediate family but among his wider circle of friends and admirers. It was therefore appropriate that the first Baisakhi day, 13 April 2007, after his passing away, was devoted to his memory.

It was on 13 April 1978, that he gave effect to his novel idea of honouring his teachers under the grand name of 'A Date with Mathematicians'! In this venture he had the firm support of his distinguished consort Asha Rani Singal, and her sister, Sashi Prabha Arya, all working under the gentle guidance (and active involvement) of a famous mathematician, late Jagat Narain Kapoor. The celebrations have over the years acquired a characteristic pattern – morning and afternoon lectures by eminent mathematicians/scientists on highly topical subjects of mathematical and physical interest and an evening function in which distinguished personalities with a long record of service to the cause of mathematical sciences are honoured. It was therefore in the fitness of things that celebrations on 13 April 2007 started with a lecture in the memory of the founder of this series.

Here I recall a few personal reminiscences of this occasion. Singal started this series with a memorial lecture in honour of our teacher late J. N. Mitra, the first one that was inaugurated most appropriately by a long-term colleague of Mitra, viz. B. R. Seth, and presided over by R. C. Majumdar (who was my teacher in physics). It was a truly historic occasion which reminded me of our early student days together under the guidance of my late father. This spectacle was manifest in the afternoons at our home in Anand Parvat and subsequently in Daryaganj. The usual pattern was that every afternoon 5–10 students gathered for interactive lessons. These lessons were given strictly for love's labour – any sinecure aspects were totally unknown in those days. It was this special relationship of my father with his students that perhaps singled him out for a special place in their hearts – all for the altruistic love for mathematics! Singal and I were only two of them. But it had never occurred to any of his students to perpetuate this wonderful memory for all the years since his death in 1970 until Singal came up with his brilliant idea in 1978 which quickly expanded to include memorial lectures in honour of several other professors who kept disappearing from the scene in quick succession (R. S. Verma, Ram Behari, B. R. Seth, culminating in the memorial to D. S. Kothari who represented a synthesis of physics and mathematics). The tremendous enthusiasm for attending 'A Date with Mathematicians' year by year has been there for all to witness. All kudos to Singal for this wonderful feat. And with his passing away in July 2006, he has joined their ranks with effect from the Baisakhi Day of 2007! His memory will outlive him by many years.

I am thankful to Mrs Singal and S. P. Arya for this opportunity to associate myself with this special volume of the *Mathematics Student*.

1. Dauben, J. W. and Parikh, R., *Curr. Sci.*, 2010, **99**, 300.
2. Balaram, P., *Curr. Sci.*, 2010, **99**, 265.
3. Mitra, A. N. *et al.*, *Mathematics Student*, 2007, **76**(1–4).

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