

I was named a member of the Advisory Committee and received a letter from Professor B. M. Johri in 1970 in this regard.

The journal *Photomorphology* graciously asked me to write the obituary of Rene Souèges, who passed away at a ripe old age. When he was active in research, I had a good deal of correspondence with him. I used to send camera lucida drawings of my work on the embryogeny of some leguminous plants, and he would critically examine the drawings, write his comments in red ink and would return them to me. I have preserved all his letters.

When the American anatomist, Adriance S. Foster was visiting Delhi University and expressed a desire to meet me Maheshwari immediately invited me to Delhi. I was carrying a generous quantity of ripe

fruits of *Circaeaster agrestis* (the only representative of the family Circaeasteraceae in the world) for Foster. He was pleased as he was deeply interested to study this plant endemic to NW Himalaya to NW China. During this visit I gave an illustrated talk on Himalayan Flora at the University of Delhi and Professor and Mrs Foster were among the audience. I was honoured by their presence. Professor Foster grew these plants in Berkeley, California and the Director of the Royal Botanic Garden also introduced the plant at Kew in UK. Dr Hubbard, on behalf of the Director, Sir George Taylor, handsomely acknowledged this help. Professor Foster also thanked me in his papers on the open dichotonous venation of the leaves of *Circaeaster* published in the *Journal*

of the Arnold Arboretum and the *American Journal of Botany*.

Sometime in the early 1960s, a few years before his untimely demise, Maheshwari visited our home in Dehra Dun and spent a day with us. My wife and I thankfully remember this occasion.

I pay my profound respects and humble tribute to the memory of Panchanan Maheshwari, one of the greatest botanists of our times, especially on the occasion of his birth centenary. He was both my mentor and 'Guru'. May his soul rest in peace.

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N. K. Anant Rao (1915–2004)

Professor N. K. Anant Rao, who served as Head, Department of Agronomy and later as Deputy Director of the Rural Institute, Bichpuri attached to R.B.S. College (formerly B.R. College), Agra passed away on 8 January 2004 in Rochester, New York, USA. In his demise the country has lost a most dedicated agronomist and an educationist of great vision, who worked ceaselessly for the flowering of talents of students by example and encouragement.

Anant Rao was born in Harihar, Karnataka on 15 October 1915 to Krishnamurthy Rao, a veterinarian and Vishalakshi. Losing his mother when he was barely 15, Anant Rao was adopted by his aunt. After passing the intermediate and B Sc (Hons.) examinations in botany from Central College, Bangalore he proceeded to Banaras Hindu University (BHU) and studied in the Department of Agricultural Botany. He stood first in M Sc in 1937 and was awarded the Chancellor's Gold Medal. Appointed as a demonstrator against a leave vacancy, he was appreciated as a good scholar and an effective teacher. Working in collaboration with his research supervisor B. N. Singh, the young Rao published seven research papers (as junior author) in prestigious journals such as *Plant Physiology*, *Protoplasma* and *Current Science*. These papers dealt with quantitative estimation of chlorophyll, detection of carotenoids in chlorophyll samples, polaric estimation

of cane sugar and development of photometer, nephelometer and saccharimeter. His paper published in *Nature* (1937) reported the changes in chloroplast pigments in leaves during senescence. He received his Ph D degree in 1943 from BHU, but could not be appointed on the teaching



staff, in spite of the desire and efforts of S. Radhakrishnan, Vice-Chancellor, owing to university politics.

On the basis of strong recommendations by former students of BHU who were working as teachers in B.R. College, Agra, and who knew Anant Rao's academic brilliance and human qualities, he was appointed a lecturer in botany in 1943. Another happy event that coincided with

the procurement of the job was his marriage with Shantamma Bopardikar, a graceful young woman of his own choice.

Anant Rao was shifted to the Department of Agronomy in 1946 when M Sc (Ag.) course in agronomy was started. He headed this department from 1948 to 1956. R. K. Singh, the dynamic Principal of the college, was keen to develop it into an autonomous institution with its own curriculum and degrees. The resources were meagre, but the morale of the teachers was high. There was a golden opportunity to turn the disadvantages into challenges by application and effort.

A Rural Institute was being set up in Bichpuri by Singh, close to Agra in 1949. The area was semi-arid and facilities for living and teaching were inadequate. Everything had to be created from scratch. The challenge of making the best of what the faculty had, brought the finest out of them under the leadership of 'Rao Saheb', as he was fondly called. The Rao couple moved to Bichpuri with their four-year-old son, and the family led a simple life. A school was started by Rao for the children of the staff. Gradually, the Bichpuri campus developed into an institution of advanced learning that included the Rural Institute, the Bichpuri Farm, postgraduate studies in agriculture, farm management, extension education in the surrounding villages and liaison with the Block Organization

of the Government of India on social education and community development. The teachers faced severe hardships as several of them had to commute from Agra every-day.

Visiting USA as a TCM scientist in 1954, Anant Rao contacted the Rockefeller Foundation. Several officers of the Foundation visited Bichpuri subsequently and gave small grants, which helped in meeting the cost of various activities that attracted national attention and support.

Singh and Anant Rao were both known as transformers of students. Among those students who studied in B.R. College in the early years, several took part in the successful ushering in of Green Revolution in India and rose to occupy key positions of influence and leadership in agriculture.

The University Education Commission (1948) appointed by the Government of India under the Chairmanship of S. Radhakrishnan declared that as food production in the country was in a pathetic condition, agricultural education should be a major national issue. The Commission agreed that the 'Land grant' idea of USA which was an offshoot of the Morrill Act (1862) passed by the US Congress under the Presidency of Abraham Lincoln, should be adopted to train students to boost agricultural productivity in India. The Commission accepted the proposal to establish a number of rural universities in India. The Indo-American Joint Team, appointed by the Government of India recommended the adoption of LDU (Land Grant Universities) concept to suit Indian conditions. The measures included strengthening of postgraduate teaching and research in agricultural subjects (agriculture, veterinary medicine, home science and agricultural engineering) and effective coordination of agricultural education, research and extension.

The first agricultural university in India was set up in 1960 at Pantnagar, later designated G.B. Pant University of Agriculture and Technology (GBPUAT) in 1972. A brief history of the founding of GBPUAT is available in a document *Five Decades of Pantnagar* published in 2003. After a good deal of persuasion from professional colleagues and with great reluctance, Anant Rao left Bichpuri and joined the University at Pantnagar as Dean of Agriculture in 1960. At Pantnagar, Rao put to practice his ideas and experience gained at Bichpuri and built the College of Agriculture.

He held several other positions simultaneously – Librarian, Dean of Student's Welfare, Chairman of the Disciplinary and Academic Probationary Committees. He was also the founder Director of the College of Home Science and served as Acting Vice-Chancellor on several occasions.

One remarkably useful and compulsory course started by Dean Anant Rao was Practical Crop Production (Grain Crops). Course APA-351 as it is called, continues even now at GBPUAT in the third year of the B Sc (Ag.) degree programme. This is meant to provide a hands-on experience to every undergraduate student on all aspects of raising a crop: making the field ready, sowing, irrigation, weeding, plant protection, harvesting, selling the produce, etc. All the necessary inputs for this work are provided by the department and the profit is shared by the students. The incentive to earn while learning is an eye-opener to conventional universities as well as engineering colleges which emphasize only theory. He also introduced a service contract scheme to assist the farmers if they encountered insurmountable problems.

Anant Rao felt that publication of research papers on obscure topics was not what the country needed. He committed himself towards the goals of eradicating hunger and generating rural employment. He also went beyond the boundary of agronomy and was largely responsible for spreading basic values among students such as utter dedication, discipline, honesty, spirit of cooperation, loyalty to the institution, transparency in dealings and a willingness to change. In recognition of his invaluable contributions to the development of the university, an auditorium complex has been named after Dean Anant Rao at Pantnagar.

On his appointment as Deputy Director-General (Education) by the ICAR in 1974, Anant Rao moved to New Delhi. He brought about reforms at the national level and founded new agricultural universities in several states.

The last official assignment entrusted to Anant Rao was the establishment of the National Academy for Agricultural Research Management (NARM) at Hyderabad in 1976. Started with the professional collaboration of N. P. Sen and K. K. Singh (Director of Research) of the Administrative Staff College of India, it has grown in

stature now and provides a six-month course to fresh recruits of the Agricultural Research Service (ARS) and short-term programmes on computer applications, preparation of databases, and intellectual property rights to non-agricultural scientists. Anant Rao was elected a Fellow of the National Academy of Agricultural Sciences in the year 1993 in appreciation of his services to agronomy and agricultural education.

After leaving NARM, the Raos lived in Mysore for a short time. They moved to Rochester in 1980 to settle down with their son and his wife. Most elders find it difficult to adjust themselves to the rather impersonal and hectic American lifestyle. The Raos did not feel secluded and led a peaceful, contented and spiritual life. They celebrated their 60th wedding anniversary and togetherness.

Being far away in time and space, Anant Rao reflected on his life and summed up his philosophy as follows: 'Never hurt people. Help create a caring and affectionate atmosphere for others. Keep your needs to the minimum. Life is a gradual evolution through lifetimes. Evolve yourself into contentment. One has to have a higher goal in life. Have the conviction that one is meant to do something and try to grasp what it is'.

After leading a full life and experiencing its vicissitudes, joys and fulfilment, Anant Rao passed away quietly in his sleep after entering the 90th year.

I was fortunate in receiving his benevolence and was inspired by his nobility. It was with his help that I joined the then B.R. College, Agra which still gives financial assistance to needy students to pursue higher studies. Going to Agra was a turning point in my life, as it opened up numerous subsequent opportunities to learn and serve.

The memorial service held for Anant Rao at the Hindu Temple of Rochester, was aptly called 'A celebration of life'.

I thank the members of Anant Rao's family, B. N. Johri (GBPUAT) and K. K. Singh, who provided me materials for preparing this note.

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