

Dr. Gopalakrishna Thyagarajan



(2 May 1934 - 24 March 2024)

A Visionary and Enigmatic Leader

When my revered friend, Dr T. Ramasami, a former Secretary of the Department of Science and Technology of the Government of India broke to me the sad news of the passing away of Dr Gopalakrishna Thyagarajan on the 24 January 2024, my highly disturbed mind quickly scanned the images of some of my legendary friends who, by their departure, have created a void in my life. The news brought tears in my eyes and a smile on my face at the same time. Tears naturally came because, we were both fellow travellers for nearly five decades and I will miss him immensely as he has aborted the journey creating a void in my life. The smile on my face came to remind me that our lives on this planet are indeed short, give and take a few years and there are no goodbyes for true friends in the emotional space.

Dr Thyagarajan was my most respected friend, philosopher, and guide. As a friend, he always opened his heart to me and encouraged me in difficult times. As a philosopher, he never failed to share his depth of knowledge and wisdom. And as a guide and mentor, fortuitously, he came to my life right in the formative stage of my professional career, as far back as 1975, to stir my imagination and underscore by his own example that there is no summit of human excellence and deeper we dig, the bigger is the haul. Slowly I discovered that such noble thoughts can be traced back to the Upanishads.

Thyagarajan was born on 2 May 1934 at Tiruvarur in Tamil Nādu. He obtained the degree of M.Sc. in 1956, and Ph. D in 1962, from the Osmania University. Thereafter, he worked as a Post-Doctoral Fellow at the University of California at Berkeley in 1964-65. He was a visionary leader who always thought way beyond the boundaries of his chosen field of speciality making notable contributions in the fields of Chemical Process Industries; synthetic drugs; organo-phosphorous pesticides; leather processing; Chemical Safety; Technology Management and Technology Forecasting. Because of his outstanding academic and professional track record, recognitions and awards naturally followed him as his shadow. He became a Fellow of the Royal Society of Chemistry, London; a Fellow of the Indian National Academy of Engineering, New Delhi; a Honorary Fellow of the Indian Institute of Chemical Engineers, and received KG Naik Gold Medal for Industrial Contributions; Vasvik Award for his contributions to Chemical Sciences & Technology, and the Leather Media Award.

In my very long stint with the CSIR spanning over four decades, I find Dr Thyagarajan as the only colleague who had the distinction of heading three national laboratories, stepping from one to the

other. In 1974, none other than Dr Y. Nayudamma, the then Director General of CSIR, interviewed, and selected him to serve as the Director of CSIR's Regional Research Laboratory in Jorhat, later renamed as North East Institute of Science and Technology. In the year 1981, when Dr G.S. Sidhu, the then Director of CSIR's Regional Research Laboratory in Hyderabad (now Indian Institute of Chemical technology or IICT) moved to CSIR Headquarter in New Delhi to take charge as Director General of CSIR, Dr Thyagarajan was appointed as the Director of RRL, Hyderabad (IICT) on 2 February 1981. Finally, he served as Director of Central Leather Research Institute in Chennai in two spells- from 1984-87, and from 1990-94. His mission at CLRI was to turn around CLRI from a position of weakness to one of global leadership. His contributions to CSIR Coordinated Programmes including the integrated development of the rural areas of Karim Nagar in Andhra Pradesh were significant.

During the period 1987-90 between the two spells, he served as the Science Advisor to Commonwealth Secretary General and Secretary of the Commonwealth Secretariat in London. It is heart-warming to recall that he was picked for this coveted position out of the candidature of about 50 Commonwealth Countries.

In the formative period of my career as a CSIR Scientist, I first formally met Dr Thyagarajan at the 4th CSIR Management Training Programme held in the campus of Central Scientific Instruments Organization in Chandigarh during July 21-31, 1975. The entire training programme was built around the young and charismatic Dr Thyagarajan. The lessons he taught us at that time, reverberates in my ears even today. He was very forthright in his statement that Research and Development work at CSIR must address the real-life problems and must necessarily address the felt needs of the society. He convinced us that what we cannot do individually, we can achieve by working as a team regardless of the degree of challenge. Among other things, he laid emphasis on pooling of scattered resources, leveraging of institutional capacities and synergising strengths of the expertise within and between the CSIR laboratories with the objective of taking science to the doorstep of the users. His views resonated with the vision of Dr R.A. Mashelkar, as the Director General of CSIR and of Dr Ramasami as the Secretary, Department of Science and Technology. On several occasions, I heard Dr Ramasami demanding focus on the 'outcome' whenever he came across long list of promises, activities, and outputs in any of project plans or progress reports!

What I learned from Thyagarajan in 1975, once again captured my imagination in December 2005, when I read his speech delivered on the CSIR Foundation Day function of the National Chemical Laboratory in Pune. Speaking on CSIR in India's life, he laid emphasis on invigorating work culture, establishing CSIR Staff College to harnessing new talent, reinventing the international cooperation and preservation of the autonomy of CSIR. I was particularly impressed by his advocacy for recourse to golden handshake to encourage respectful weeding out unwilling professionals and his call for introspection on missed opportunities to see more than that usually meets the eye.

As a fellow traveller, I recall my most rewarding engagement with Dr Thyagarajan during the period 1988-2000 which include his tenure with the Commonwealth Science Council. I particularly recall my meetings with him in the United Kingdom during 17-30 July 1988 and 15-16 June 1989. My first visit, as Director of Central Building Research Institute was aimed at advancing India's ongoing cooperation with the Building Research Establishment of the UK in the area of Fire Research, and my second visit was to participate in an interactive meeting of Directors of Building Research Organisations of Building Research Organisations (DESBRO) from England, New Zealand, Australia, Canada, South Africa, and the USA. Both times, my meetings with Dr Thyagarajan and his Deputy Dr Raul Vicencio, in the office of Secretary Commonwealth Council, were insightful and productive. We also agreed to exchange publications with Commonwealth Secretariat in the areas of Building

Materials and Disaster Management. Dr Thyagarajan introduced me to Ms Janet R Stradran, CSC's Executive Officer for Information sharing. The ensuing discussion generated very useful inputs and insights into the rapidly evolving power of information in the modern world of science and the importance of effectively connecting the laboratories of CSIR; nationally and internationally. I also came to know from Dr Thyagarajan a lot about the Software of importance accessible in the public domain.

Some of these ideas developed at our meetings, however, had to be kept on the backburner because, within months of my last meeting with Dr Thyagarajan, I left CSIR to join United Nations-Habitat. Five years later, in 1995, soon after my return to CSIR, on day one, the idea of establishing International Science and Technology Directorate (ISTAD) at the CSIR Headquarters struck my mind. It got instant seal of approval, thanks to the vision of the then DG, CSIR- Dr RA Mashelkar. Interestingly, Dr Thyagarajan was the Chairman of the Committee which interviewed new recruits for ISTAD and selected Dr Rama Bansal and Dr Purnima Rupal to strengthen it. The former is currently the Head of ISTAD, after serving as India's Science Counsellor in Russia. And the later has recently retired after serving as India's Science Counsellor in Japan and as Director of Indo-French Centre in New Delhi.

By hind sight, I recall that the idea of harnessing the power of Information which had germinated in my meetings with Dr Thyagarajan in the UK, resurfaced and fructified in a different uniform, when in the year 2000, I proposed creation of Disaster Knowledge Network to the High-Powered Committee on Disasters constituted by the Government of India. I defended my proposal at the National Workshop hosted by the Disaster Management Institution of Bhopal at the behest of the High-Powered Committee on 14 and 15 July 2000. As the luck would have it, my proposal was fully backed by Dr Mashelkar, DG CSIR via his letter of 1 September 2000 addressed to Shri J.C. Pant, the Chairman of the High-Powered Committee. The unstinted support to the proposal received from Dr Anil Kakodkar, the then President of the Indian National Academy of Engineering gave wings to the proposal. On 16 November 2000, Shri J. C. Pant, while addressing the media on National Press Day, acknowledged the support to DKN received from Dr Kakodkar and, finally, the HPC included the recommendation in its report submitted to the Government of India in October 2001.

Simultaneously, reminded of my meetings with Dr Thyagarajan in the UK, I also submitted a proposal to the Commonwealth Science Council, on creation of Commonwealth Disaster Knowledge Network. On 28 September 2000, the successor of Dr Thyagarajan at the CSC secretariat wrote to me conveying sanction of 5,000 pounds plus travel to kick-start the DKN activity. The letter also suggested partnering the project with the UNESCO.

Hazardous Waste Management was yet another area of vital national importance on which Dr Thyagarajan made significant contributions. It was in the year 1985 that he served as a Technical Advisor to the Indian side in the Bhopal case before the UN Court and liaised with the American Law Firm representing the Indian case. Subsequently, he laid emphasis on assessment of Industrial Safety in hazardous areas.

During 2003-2004, he served as a Consultant to Joint Parliamentary Committee on pesticide residues in soft drink, and later, during 2004-7, he Chaired a Supreme Court Monitored Committee on Hazardous Waste Management. He availed of every possible opportunity to highlight the staggering contrast between- Industrial Planning as practiced and Environmental Safety. In his lecture on Hazardous Waste Management in India-Ground Realities, delivered in March 2005, at the National Environment Engineering Research Institute, Nagpur, he highlighted the role of Regulatory agencies and Pollution control boards in exercising control over the abuse of the prescribed Codes

and Standards. He was particularly critical of the unorganised development of industries such as pharmaceuticals, pesticides, mining, and metallurgy.

As a Science Administrator, he saw the need for giving meaning to the pursuit of science, by fostering, promoting, and sustaining the culture of science, pro bono publico. Towards that end, he endeavoured to improve institutional infrastructure, modernise laboratories, lay emphasis on team building and on finding a down to earth connection between the research outputs and fulfilment of the felt needs of the end users.

Interalia, he also played a significant role in giving fillip to sports promotion activities in the CSIR and I was also motivated to host CSIR's Shanti Swarup Bhatnagar tournament in the campus of Central Building Research Institute in Roorkee.

Though both of us were separated by the geographic distance and rather infrequent meeting opportunities, we remained in touch with each other. The last time I met him in person was at the International Conference on Science and the Small Nations Bridging the Gaps: A Science diplomacy Initiative" held in New Delhi on November 14-16, 2017. It was organised by Zaheer Science Foundation, (ZSF) of which he was the Chairman. While inviting me to be a speaker at the conference, he expressed his deep concern about the plight of the small nations. Of the 197 independent nations at that time, 135 had population of 10 million or less. Of these 135, 45 were small island nations with population of one million or less. Despite these island nations being principal contributors of data and information to feed countless global projects on climate change, extreme weather events, sea level rise, natural disasters, and trans-boundary pollution, they faced the threat of science and technology marginalization. In my presentation, he specifically asked me to suggest what should be done to rectify the imbalances and what policies and strategies can help integrate the small and disadvantaged nations with the ongoing and perceived global scientific initiatives.

In an article on Technology Policy for Global Competition: Lessons from the East Asia, published in the International Journal of Engineering Education (1994, Vol10), Thyagarajan jointly with P.N. Desai underscored that "the third world countries need to examine closely the connection between technology, population growth, environment, and development. It is necessary for them to lay emphasis on quality, design, R & D market research, information, and communication technology, and above all, commercialization, and global competitiveness". What he clearly saw three decades ago, continues to be as relevant even today.

Dr Thyagarajan, while paying tribute to his mentor Dr Yelavarthy Nayudamma via his article titled *Calm and Composed-Even in Crisis* published in his Centenary Volume, wrote: - "He was a man with great deal of patience, could keep cool even in worst circumstances and think clearly. Whatever he did in life, he did gracefully and left a deep imprint on whosoever came in contact with him." The above qualities were his ornaments too, by which we will all remember him for all times to come!

I salute Dr Thyagarajan who will always live in the heart of all those who were fortunate enough to come in his contact. May his soul rest in peace.

R.K. Bhandari

A friend, an admirer, and a colleague of Dr G Thyagarajan at CSIR

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