B. P. Radhakrishna (1918–2012)

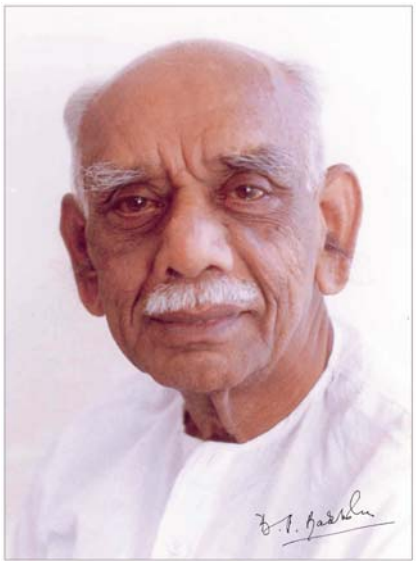
Bengaluru Puttaiah Radhakrishna (popularly known as, BPR), a pre-eminent geologist of India, passed away peacefully at the age of 94 on 26 January 2012 at his residence in Bengaluru. His impeccable service to the cause of earth sciences in the country, is hardly matched by anyone, and therefore, his demise has left a void hard to fill.

Radhakrishna was born in Bengaluru on 30 April 1918. His parents Puttaiah and Subhadramma were from a distinguished family. His father is known to have served the cause of the downtrodden Vokkaligas (the farmer community) in the pre-independence days. He had studied geology and specialized in the art of printing and publishing. He also served as Superintendent in the Government Printing Press. Thus it may be said that BPR may have imbibed his interest in geology, talent in printing and publishing, and serving the cause of the society by birth.

Radhakrishna passed B Sc (Hons) with a first class in 1937 and joined the Mysore Geological Department (now the State Department of Mines and Geology of the Government of Karnataka) as Geological Assistant. He worked with eminent geologists like Bellur Rama Rao and C. S. Pichamuthu, matured as an excellent field geologist and remained an 'unrepentant field geologist' till the end. During his early career, he carried out exploration in the Bellara Gold Fields in Tumkur District and the Byrapur chromite deposit in Hassan District. He was both an academic researcher and an outstanding exploration geologist.

BPR carried out researches on the late Archean Closepet Granite and proposed that it originated from the granitization of Peninsular Gneiss. For this work, he was awarded the Ph D degree of Mysore University in 1956. His contributions on the Precambrian crustal evolution and related metallogenesis, accretionary growth of the Indian shield and the geomorphic evolution of Western Ghats are well known.

Radhakrishna rose through the ranks and became the Director of the Department of Mines and Geology in 1965. Under his stewardship he developed both the mineral and groundwater wings in the Department. Karnataka's Mines and Geology Department was one of the earliest to start a separate groundwater cell in the country to scientifically explore, develop and manage groundwater resources in hard-rock terrain. Under his guidance hundreds of reports dealing with geological studies and groundwater were published by the Department. Application of remote sensing and electrical resistivity methods for groundwater exploration were introduced in the early 1970s itself, in the state. BPR also started the Chitradurga Copper Company in 1966. While serving as Director, he was appointed as the Chairman, Mysore Minerals Limited, the mining arm of the Government of Karnataka in 1967. He retired



as the Director of Mines and Geology in 1974, and soon after, the Karnataka Government appointed him as Chairman of the Chitradurga Copper Company and later utilized his services as Chairman and Managing Director of the Karnataka Copper Consortium from 1976. He also served as Member of the Board of Directors of the Bharat Gold Mines Limited, that operated the Kolar gold fields and the Hutti Gold Mines Limited, that operated the Hutti gold mines. He retired from government service in 1979.

Exploration under his guidance on iron, manganese and chromite played a pivotal role in the growth of the iron and steel industry and also laid the basis for mineral exports from Karnataka. Studies on flux and cement-grade limestone in the Archean schist belts, as well as Proterozoic Kaladgi and Bhima basins of northern Karnataka, helped in meeting the requirements of the steel industry and developing the cement industry in the state. BPR was also responsible for detailed exploration for copper in the state, which led to the setting up of the copper mines at Ingaldhal in Chitradurga District, Kalyadi in Hassan District and Tinthini in Raichur District. He emphasized the importance of industrial minerals. This brought up mining and processing of China clay, bauxite and quartz, and led to the growth of ceramic and glass industry in Karnataka. He prepared a vision document for groundwater development in hard-rock terrain in the state, which provided the road map for scientific and sustainable development of groundwater resources, that is relevant to this day. The legislation for preventing indiscriminate development of groundwater, which the State Government is implementing now, is a concept he proposed almost 50 years ago. BPR believed in the relevance of scientific studies and research, and it is this approach which distinguished him from other geoscientists and endeared him in the geological, mining and social circles.

Although BPR was to the core a field geologist, he always had great appreciation for the importance of geophysics, geochemistry and geochronology for understanding the solid earth. In his advisory capacity, he helped Hari Narain, former Director of the National Geophysical Research Institute, Hyderabad, to develop all these fields in the Institute. He collaborated with V. S. Venkatasubramanian at the Indian Institute of Science, Bangalore, during the early days of geochronological and stable isotopic geochemical researches in the country. As Member of the Board of Studies in the universities, he contributed to the growth of geological education.

BPR is well known among the national and international geological community for his yeoman services to earth sciences through the Geological Society of India (GSI), of which he was one of the founding members. He contributed to its establishment and growth, through dedicated service, as Secretary (between 1958 and 1973), as Editor (between 1973 and 1992) and as President (between 1992

and 2006). It is no exaggeration to state that it is his dedication which accorded the Society its prestigious place in the world of geoscience. The main aim of the Society is to publish results of researches on Indian geology and provide a platform for the growth of geological knowledge through discussions. The *Journal of the Geological Society of India*, which initially started as an annual publication, became a quarterly and later a monthly journal, during his tenure as the Editor. To this day, it remains the main publication channel for geologists in India and is one of the most punctual journals published from the country, thanks to his efforts and of his team. Under his watchful eye, the Society also published memoirs, textbooks and field guides from time to time. His editorials in the journal of the Society were always eagerly looked forward to, for their immediate relevance to science and society. These have been brought together in the Society's special publication under the title *Random Harvest*.

Radhakrishna encouraged young geoscientists to present their researches as invited talks at the Society's monthly meetings. He took the Geological Society to different parts of the country for its Annual General Meetings, which invariably were associated with scientific meetings/seminars. He facilitated close interaction between overseas and Indian scientists by organizing field workshops and international seminars. Many of these conferences led to fruitful collaborative researches, from which Indian geoscience greatly benefitted. Russian scientists, who worked under one such collaborative programme, discovered a new lead tellurium chloride mineral in the Kolar gold-bearing quartz veins, which they named after him as Radhakrishnaite, thus making his name immortal.

While BPR encouraged specialists from different parts of the country to write or edit books published by the Society, he also authored several books. Principal among them are the *Geology of Karnataka*, *Mineral Resources of Karnataka*, *Gold – the Indian Scene* and *Antarjala* (*groundwater in Kannada*). He also edited several memoirs. Among them, the *Memoirs on Archean Greenstone Belts of South India*, *Granulites of South India and Sahyadri* are landmark publications. BPR was a voracious reader and had great flair for writing biographical accounts in Kannada. He wrote about his father in *Nanna Thande* in 1949. He also wrote biographical accounts of some outstanding personalities like C. V. Raman, Madam Curie, Srinivasa Ramanujan, Charles Darwin and B. G. L. Swamy. The Kannada language and style adopted by him received appreciation from stalwarts in Kannada literature like D. V. Gundappa (DVG). These biographies are not mere translations, but are well-referenced and researched books.

For his contributions to science and society, Radhakrishna was honoured by several institutions. He was elected the Fellow of the Indian Academy of Sciences (1956), Fellow of the Indian National Science Academy (1972), Honorary Fellow of the Geological Society of London (1986), the Geological Society of America (1990) and the Indian Geophysical Union (1996). He was awarded an honorary D Sc by the Indian School of Mines, Dhanbad (1992). The Government of India conferred on him the National Mineral Award (1971), Padma Shri (1991) and the National Mineral Award for Excellence (2000). He was also a recipient of the D. N. Wadia Medal of the Indian National Science Academy, the Rajyothsava Award of the Government of Karnataka (1974), Sir. M. Visveswaraiah Award (1996), Millenium Award of the Geological Society of India (2000) and the Sahitya Academy Award for Biography for the years 1997 and 2002, and the Jawaharlal Nehru Centenary Award of the Indian Science Congress Association (2007).

BPR was known for his austerity. He was very sensitive to environmental degradation and anthropogenic contribution to it. He was greatly influenced by the *Bhagavad Gita*, *Vedas*, *Upanishads* and DVG's *Manku Thimmana Kagga* from which he quoted profusely in his speeches and writings. He had a great sense of humour. He greatly encouraged young talent.

Radhakrishna was an academician and applied earth scientist par excellence who contributed to the growth of the mineral industry in Karnataka. He was among the first to develop the science of groundwater development in the hard-rock terrain in India. He was a great promoter of researches in earth sciences and an institution-builder. He rode the Indian geological scene like a colossus for more than five decades. He will be greatly missed by the geological community. It would do well to emulate his sterling qualities for the growth of earth sciences in the country.

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