

OBITUARY



T. F. W. BARTH
(1899—1971)

By the sad demise of Prof. T. F. W. Barth, an honorary fellow of the Society, the world of earth sciences lost a philosopher and guide. Prof. Barth expired on the 6th of March 1971 at Oslo.

Thomas Fredrik Weiby Barth was born in the summer of 1899 in Bolsoy outside the small town of Molde. He entered the school at Trondheim where he grew up and finished school in 1918. The interest for the science of geology was aroused in his mind through the personal contact with the geologist Dr. Carl Bugge. Barth began his study of geology at the University of Oslo (the then Royal Frederic's University) in 1919 under two master minds—W. C. Brogger and V. M. Goldschmidt. Barth completed his post-graduate studies in 1923 with the degree of 'cand real'. Earlier in 1922 he married Miss Randi Thomassen. During 1924 to 1927 Barth was under the stimulating influence of Prof. Goldschmidt and got interested in crystal chemistry and element geochemistry. In 1927 Barth received the degree of Doctor of Philosophy from Oslo University.

An international Rockefeller grant brought Barth to Harvard in 1929 and then to the Geophysical Laboratory, Carnegie Institution of Washington. From 1929 until 1936 he was a member of scientific staff in the Geophysical Lab. and during this period in the States, he came under the significant influence of R. A. Daly, Espar Larsen, N. L. Bowen, A. L. Day and others. In 1936 Barth returned to Norway as a professor and director of the Mineralogical Institute of the University of Oslo. During the war years Barth lived in Oslo, trying to serve the science and his nation. During this period he had to spend some time in a German concentration camp, but Barth's scientific researches continued in spite of many handicaps. After the war in 1946 he joined the faculty of the University of Chicago as a Professor of Geochemistry. Three years later he returned to Norway as a successor to Prof. Goldschmidt and as Director of the Mineralogisk Geologisk Museum with which he

was associated till his last days. To the associates it was evident that Barth liked both the splendid laboratories of the States as also the way of life in Oslo where he could live closer to Nature.

Barth's researches covered a wide range of subjects in mineralogy, petrology and geochemistry. While at the Geophysical Lab. he carried out comprehensive studies on atomic structures of minerals and explored the mystery of 'variate atom equipoints'. The trend of thoughts on structural mineralogy gradually changed through years into 'mineralogic petrography', leading to publication of his well known papers on 'Crystallisation process in Basalts' (1936) and 'Structural and petrological studies in Dutchess County, N.Y., Pt. II (1936). While at the Geophysical Lab. he developed a special interest on the hot springs and geysers of Iceland. His comprehensive investigation in this field is reported in a magnificently illustrated monograph (Carnegie Inst. Washington, Pub. No. 587).

Barth resided in the surroundings of igneous rocks of Oslo province. Of numerous publications on these rocks one is known to most igneous petrologists for basic importance—'Systematic petrography of the Plutonic rocks' in the series, 'Studies in the igneous rock complex of the Oslo region'. He mapped large areas of Precambrian rocks and carried out extensive investigation of the granitic rocks of southern Norway. In the field of granite controversy he was a 'soak'. Lately, Barth's writing covered wider and more diverse subjects related to chemical petrology, feldspar thermometry and theoretical geochemistry. Barth's treatment of geochemical problems was simple and fundamental, but critical in approach. Although engaged in research, Barth was able to write a modern treatise on petrology. The chapter 'Die Eruptive Gesteine' in *Die Entstehung der Gesteine, Ein Lehrbuch der Petrologie* (Barth, Correns, Eskola 1939) is written with such a mastery that the book still stands out as an indispensable text. His text book on Theoretical Petrology and the recently published masterpiece on Feldspars have brought Tom. F. W. Barth very close to geologists of all ages, all over the world.

Barth was associated with a large number of scientific bodies and geological societies. He was the able editor of *Lithos*—the leading journal of petrology of the present world. He was president of the International Union of Geological Sciences for 1964–68. He was conferred honorary doctoral degree of the Universities of Copenhagen, Nancy, Kiel, Liege and Zurich. He was honoured with the Roebbling Medal of the Mineralogical Society of America (1961), the Eskola Medal of the Geological Society of Finland (1968) and Boricky Medal of Charles University, Prague (1968). On his sixtieth birthday, the Norwegian Government conferred upon Barth, the Royal Order of St. Olav, the highest honour a Norwegian civilian could achieve. Tombarthite, a new rare-earth-mineral, discovered in pegmatites in Iveland, Evje area, South Norway, has been named after Tom. F. W. Barth.

Persons who came in personal contact with Barth were charmed by his natural behaviour, free of any decorative dignity. His skill and eagerness in conducting knowledge to the younger scientists endeared him to them.

The large crowd of geologists who had gathered around Barth in scientific centres, found in him a saintly scientist devoted to the cause of earth science. He laboured in a fashion which had nothing to do with age or ill health. 'To be able to do good research is a state of mind'. Throughout his life Barth maintained that state of mind and tried to build such ones amongst the younger scientists.

We deeply mourn the death of Professor Barth.

MIHIR K. BOSE.

A. M. HERON

The Geological Society of India has lost in the death of Dr. Heron on 29th January 1971 one of its distinguished Foundation Fellows. After retiring from the Geological Survey of India, he was for some years the Director of the Hyderabad Geological Survey. Later, he decided to settle in Coonoor on the Nilgiri Hills which is salubrious throughout the year. A few years ago I had the pleasure of meeting him there, and he was already looking very old and worn out. His eye sight was failing and so he had employed an amanuensis who attended to his correspondence. Unfortunately, he had had a fall which injured his spine slightly resulting in what he called a 'Greecian stoop'. He was very happy that I called on him, and before I left insisted that I should go out into the garden and see his tombstone which he had already got made.

I had met him through the years mainly in sessions of the Indian Science Congress. It was a delight to be in his company for he was a fine raconteur. I recall one of the anecdotes which he related. After a long day's field work, he and a fellow geologist were resting on the top of a hill when his companion looking down on the plains below told him that they appear to have missed a dolerite dyke that was there. Heron did not like being told that he could have overlooked such an obvious thing; anyway there it seemed to be—a long line of dark bouldery outcrops. He thought he should take a good look through the binoculars, and when he did so, he got the surprise of his life when he found the 'boulders' moving—it was a row of buffaloes slowly going homewards!

On this occasion Dr. Heron also told me that though both were about the same age, Dr. Wadia had the advantage of spending 15 years on the Himalayas, he was most of the time in hot and dusty Rajputana. In fact, he spent a period of nearly 30 years in the investigation of the Precambrian rocks of Rajasthan and Bundelkhand.

Dr. Heron mapped practically the whole of Rajasthan and classified the pre-Vindhyan formations. Commencing from about 1917, he published several bulky Records and Memoirs dealing with the geology of this region. He was one of the most outstanding field geologists India has known, and he elucidated the complicated geological structure of many parts of Rajasthan, which except for certain minor emendations, has stood the test of time. Recent geochronological investigations have also confirmed many correlations made by Heron, especially his equating the Berach granite with the Bundelkhand granite even though their outcrops are separated by a distance of 270 km. Another point which he made was that in both the Berach granite and the Banded Gneiss Complex, there are remnants of the old floor on which were laid down sediments which are as old as the Lower Dharwars; this conclusion is supported by the ages of nearly 3000 m.y. recently obtained from parts of the Bundelkhand area.

Dr. Heron was probably the last of the giants belonging to the Geological Survey of India. His death marks the end of an era in Indian geology.

C. S. PICHAMUTHU.



N. JAYARAMAN
(1911—1971)

It is my sorrowful duty to record the death of Dr. Narayanaswamy Jayaraman, Foundation Fellow and past Vice-President of the Society on 13th March 1971, at Bangalore after a heart attack.

Jayaraman was born at Maruvathure in Tanjore District on 12-2-1911. He had his early education in Madras and graduated from the Presidency College in 1936, obtaining first rank. Soon after, he migrated to Bangalore to join the Mineral Chemistry Department of the Indian Institute of Science as a research scholar. He showed even during those early years his infinite capacity for hard and sustained work. During the five years he spent in the Institute, he produced no less than 26 high class research papers concerning mostly the chemical and mineralogical aspects of some South Indian minerals and rocks. This work brought him recognition by the award of the Sudborough Medal for outstanding performance in Research, and the degree of Doctor of Science from the Madras University in 1940.

During the war period he joined the staff of the newly formed Board of Scientific and Industrial Research under Dr. S. S. Bhatnagar, and worked there for nearly four years. During this period he was elected to the membership of the Royal Institute of Chemistry.

Routine duties in a Government Department could not confine his boundless energy, and in the year 1944 he left service in Government to start analytical and consultancy service on his own. Essen & Co., the name which has been identified with Dr. Jayaraman for the last twenty years came to be started. Since 1948 he identified himself and became part of the growing mineral industry. He established a name for integrity and excellence in work. His certificates of analysis came to be accepted without question by buyers of Indian ores and chemical products. He built almost an empire by having branches of his laboratory in all centres of mining and export activity in India. Just a month before his death, he had been on a visit to Japan to establish a branch office in that country.

Although most of his time was taken up with the growing activities of Essen & Co., he nevertheless kept in close touch with research. He was an active Fellow of

the Indian Academy of Sciences and served as a member of Council. He was the Foundation Fellow of the Geological Society of India and invariably attended all Council meetings and gave the benefit of his advice. He was Chairman of the Royal Institute of Chemistry, Deccan Section.

He was loved by one and all of his colleagues and associates. His sudden death has come as a rude shock. His place in the analytical field will be difficult to fill for a long time to come.

B.P.R.

V. BHASKAR RAO

(1909—1971)

We regret to report the passing away of Shri V. B. Rao on 27th January, 1971 at Hyderabad.

Vaddadi Bhaskar Rao was born on 22nd September, 1909. He took the M.Sc. degree in Geology from the Benares Hindu University and entered the Geological Survey of India in July 1933 as a Museum Assistant. He worked in that Department for 4 years and his work related mostly to rearranging museum collections and attending to petrological and mineralogical enquiries. He also published a few papers. He joined the Burmah Oil Company as an Assistant Petrologist in September 1937. He did supervisory work in the Office and Laboratory and advised on petrological problems connected with the Assam Oil fields. He did also some field work, mostly in Sylhet and Mikir hills and in the Nichuguard area. In 1950 he was designated Superintending Geologist, and in 1961 he was appointed Shillong representative of the Company—in which post he retired in September 1965.

Affectionately known as 'V.B.' in Assam Oil Company, V. B. Rao was an outstanding tennis player and dominated the courts of Assam for well over a decade. During the later years, he took to golf and excelled in that game also.

He is survived by his wife and four daughters who are all married, and a host of friends to mourn his loss.

M.B.R.