

**PRESENTATION OF THE MYSORE GEOLOGISTS' ASSOCIATION GOLD MEDAL
TO
DR. BRIAN CHADWICK**



Dr. Kurien Jacob in presenting the Mysore Geologists' Association Gold Medal to Dr. Brian Chadwick said :

I have great pleasure in announcing the award of the Mysore Geologists' Association Gold Medal to Dr. Brian Chadwick, Senior Lecturer, Department of Geology, University of Exeter, U.K.

Dr. Chadwick had a bright academic career at Imperial College, London, having studied as an undergraduate under John Sutton and Janet Watson and as a post-graduate with a team in the Swiss Alps supervised by John Ramsay.

After a brief spell in Canada with the Department of Mineral Resources, Government of Saskatchewan, he joined the academic staff of the University of Exeter in 1966. He soon began collaborative work with the Geological Survey of Greenland which took him to the Late Proterozoic - Caledonian belt in Scoresbysund, East Greenland, before he began detailed studies in the Archaean block of southern West Greenland in 1972. This research was concentrated in the Buksefjorden and Godthabsfjord regions and continued until 1985. He has made valuable contributions to the Archaean geology of parts of southern West Greenland and he is continuing his studies with work on the Early Proterozoic and Archaean high-grade terranes in Southeast Greenland.

During an early visit to Karnataka in 1975, Dr. Chadwick was fascinated by the new synthesis of regional geology brought about by the Geological Survey of India, and soon collaborative studies commenced with that organisation in the Karnataka Craton. These studies are continuing now in the Shimoga belt in association with the Department of Mines and Geology, Government of Karnataka.

Dr. Chadwick's contribution began with investigations into the structural framework of the Karnataka Craton by comparing the three phases of deformation

in the Sargur supracrustal association and the Dharwar Supergroup. Subsequent studies brought out still older fabrics in the Sargur rocks, and a single major phase of structural evolution in the Dharwar Supergroup, with transitional sub-phases causing contemporaneous refolding.

The deformational patterns in these rocks were linked with the regional metamorphism in the craton. The evolution of the Dharwar basins was shown to be related to vertical movements within the Peninsular Gneiss basement. These studies have shown that early horizontal tectonics reported by some for other greenstone belts such as Barberton and Selukwe have not been proved in the Dharwar belts.

Another major contribution by Dr. Chadwick has been to confirm through modern methods of structural studies that the Peninsular Gneiss is essentially a basement to the Dharwar belts, that the Sargur enclaves are older than the Dharwar and the different supracrustal suites are separated by major unconformities.

Yet another significant contribution has been on the dynamic stratigraphy of the Bababudan belt, with emphasis on the structure and depositional environment. This has been the first attempt to reconstruct the depositional environment of a Dharwar basin. These studies have clearly shown that the Dharwar sediments have a predominantly marine character with local alluvial facies as against the fluvial regime postulated for them by others. This has an important bearing on the origin of the quartz-pebble conglomerates and the related uranium, gold and copper mineralisation.

Dr. Chadwick was the first investigator to suggest that oblique-slip may have been important in the development of the Dharwar belts in the low-grade part of Karnataka. He and his co-workers are currently testing models of transpression with shortening against stratigraphic and structural data from various Dharwar and related basins.

In view of his valuable contributions to Karnataka geology, the Council of the Geological Society of India decided to award the Mysore Geologists' Association Gold Medal to Dr. Brian Chadwick.

On behalf of the Fellows of the Society and on my own behalf, I warmly congratulate Dr. Chadwick and express our expectation of further valuable contributions from him in future years. I have great pleasure in presenting the award to him.

As Dr. Chadwick is away in the United Kingdom and is unable to be present in person to receive the award, I request Dr. Ramakrishnan, who has been a close collaborator of Dr. Chadwick, to receive the award on his behalf.

Reply from Dr. B. Chadwick

Thank you, Mr. President, for your kind remarks. I am deeply honoured and very grateful to Council for the award of the Mysore Geologists' Association Gold Medal. It is important that Council and Fellows should be aware that I regard the award as recognition of a collaborative endeavour, with major contributions having been made by my colleagues M. Ramakrishnan, V. N. Vasudev and M. N. Viswanatha.

From the time of my first visit to Karnataka in 1975 as part of an INSA-Royal Society Exchange Fellowship, I have been intrigued by the geology of the late-Archaeon volcanosedimentary basins. I had expected originally to spend no more than a couple of seasons examining the Archaeon rocks of Karnataka, particularly with regard to the Dharwar basins in the low-grade area of the craton in terms of the possibility that they may represent high crustal levels which are now missing from above the deep crustal levels of the Archaeon in southern West Greenland which I have been studying since 1972. However, I consider myself most fortunate that things turned out differently, and our collaborative programmes in Karnataka were able to flourish much longer, mostly with support from the Geological Survey of India, but more recently with the Department of Mines and Geology, Government of Karnataka.

This collaboration was brought about through the wisdom and foresight of a number of people, notably J. Swami Nath and V. S. Krishnaswamy, former Directors-General, Geological Survey of India, M. V. N. Murthy, A. S. Ramiengar and M. Ziauddin, former Deputy Directors-General, Geological Survey of India, and Chiranjiv Singh and C. N. Venkat Kumaran, former Directors, Department of Mines and Geology, Government of Karnataka. Many others have rendered valuable help and encouragement, particularly M. A. Alikhan, G. V. Anantha Iyer, D. Bellur, B. G. Channappa, S. Jayaram, V. N. Kumar, G. H. Nagaraja, M. S. Rahman and K. K. Raju. To all of these individuals I offer my sincere thanks for their warm friendship and support. I would also like to take this opportunity to thank some of those whom we scientists seldom acknowledge, namely, our jeep drivers and field labourers. We expect a lot from them and they most willingly give much with their skills and enterprise. Our field labourers contribute not least with their lunch-time conversations about country matters in Karnataka. Mr. President, it is not only the Archaeon geology that I find attractive; the Karnataka countryside is also captivating and the country people seldom fail to provide a warm welcome. Last, but by no means least, I am deeply grateful to B. P. Radhakrishna for his long-standing friendship and his unstinting help and interest in our work.

The investigation of the Archaeon geology in the low-grade terrane of Karnataka is reaching an interesting stage. Much progress has been made by various workers towards an understanding of the stratigraphy and structure. However, many important issues remain controversial or await more detailed study. These include the mechanism of Dharwar basin development, the thermal history of the Dharwar cover and its basement (particularly with regard to the genesis and emplacement of late Archaeon granites), economic mineralisation in relation to tectonism, and the nature of many of the boundaries between the Dharwar cover and its basement. Much remains to be done, especially in terms of basic field mapping. Field mapping supported by aerial photograph and satellite imagery will doubtless continue, but I should like to conclude my remarks with an appeal to the geophysicists to collaborate more closely with the field geologists, particularly in the provision of seismic profiles across critical boundaries. Significant progress will be made when we know more about the deep structure beneath the Dharwar basins.