Condolence Message on the passing of Professor F.E. M. (Ted) Lilley

Dear Penny, Family, Students, Collaborators and Well Wishers

Demise of a life partner, father, mentor, cherished professional and above all a kind human is great loss to one and all. Demise of Ted Lilley has left behind a large vacuum, which has saddened one and all who came in contact with him in different walks of life. My heartfelt condolences to the family and all followers. It was kind of Adrian Hitchman, who about a few weeks back (June 7, 2022) shared news of Ted's deteriorating health. I immediately wrote a short note to Ted wishing him fast recovery along with some reminiscences of our association. I was very pleased and touched to receive, within a week's time, a very positive email from him, recalling highlights of social learning during long spells of field work in India and subsequent academic interactions in Australia. This letter from Ted and the family photographs, which he shared at my request, will be a treasure for the rest of my life. I was happy to see picture of his expanded family and the grown-up children, with whom I had interacted at their young age during 1981. On hearing the sad demise of Ted on July 4, 2022, a sequence of events of our long association flashed out through my mind. Some remanences I would like to share with you all.

Ted: Professional Par Excellence

During the early nineteen-seventies, the analysis of transient geomagnetic variations from coastal and in-land observatories indicated the presence of strong induction effects and hence for their quantification, the need for the then emerging magnetometer array studies was realized. On quick interactions and encouragement from Professor Ian Gough, Professor F.E.M. Lilley agreed to bring the set of 21 specially fabricated Gough-Reitzel magnetometers to India. Soon a collaborative project between Australian National University and Indian partners, Indian Institute of Geomagnetism, Mumbai and National Institute of Geophysical Research, Hyderabad was approved under the framework of Indo-Australian Co-operation in Science. After mutual discussions, meticulous planning, two magnetometer arrays were operated: first, in the Himalayan collision zone and contiguous belt and second, in extensive Peninsular India where presence of complex induction effects were already deduced by the pioneering work of Nandini Nagarajan and group. Painstaking training by Ted in the deployment practice, servicing etc greatly simplified our extensive field work and permitted collection of noise-free uninterrupted data. We duplicated the Gough-Reitzel magnetometer, as a start, under his guidance and subsequently covered almost two-third of India, with constant improvements in instrumentation, processing and interpretation. EM studies in India has diversified into several groups with publications in high impact journals, acknowledged as landmark papers by the national and international Earth Science community. I am confident that more than us, Ted would have felt proud that a seed he sowed in Indian soil has grown as a full tree.

Visionary Mentor and Motivator

Following the prolonged field work, Ted created an opportunity for my visit to Canberra to participate in the analysis and interpretation of the array data. It was during this period of six months, I learned the fundamentals and intricacies involved in the electromagnetic induction studies, which served as a turning point in my research career. Till my involvement with this project, my major research interest included geomagnetism as a diagnostic of solar terrestrial relationship but my transformation to solid earth studies was motivated and steered under the guidance of Ted. Our joint work establishing signatures of the Aravalli Ranges extending beneath the Himalaya still remains exclusive geophysical evidence on the continuation of

transverse structures from Indian shield into the Himalaya. Their role in segmenting Himalayan arc into small sections and their role in partitioning strain and seismicity has kept us fascinated upto the present. In fact, electrical resistivity-fluid-seismicity linkages have kept me occupied for decades and had facilitated my movement to Wadia Institute of Himalayan Geology, Dehradun in 2003. I take this opportunity to express my sincere gratitude to you Ted for your continued teaching, motivation and guidance.

Reflections of his visits to India

While traveling on mountainous road, short breaks for a cup of tea were safety requisite. Ted had become big fan of the roadside tea stalls, locally known as 'Chai Ki Dukan', available every few kilometers. He did mention this in his last letter to me. Likewise, Ted was very wary of spicy food and initially survived on biscuits and freshly fried "Samosa", boiled potato under the wrap of wheat floor. But it was satisfying that at the final point of the field trip, he relished complete Indian food and qualified for regular visits to India. A visit to India is not complete unless one has watched a Bollywood movie. Ted did watch a movie on the last day before his return to Canberra. We met a couple of times since then and one embarrassing incident that proved that "a person in need is a friend in deed" has remained fresh in my mind. While traveling to attend IUGG, I boarded a train from London for Exeter. To quench my thirst, I rushed to the cafeteria on-board and asked for a drink. While trying to pay for it with coins that I had carried from my last visit, I was surprised by the smile on the face of the serving staff not realizing that the coins I offered were not operational currency anymore. From an unknown angle two hands came forward and paid the bill. This was none other than Ted Lilley. Ted, you have moved to a faraway place now but we wish to assure you that you will be remembered and live with us forever. Your cherished and accomplished life will be the driving force to your family and friends to aspire to higher goals in life.

Praying Ted's soul rests in peace.

Baldev Arora on behalf of Indian Earth Science Community.

(arorabr47@gmail.com)