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Serve to Unite Mankind

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ENCOURAGING SCIENTISTS



Dr. M. K. Vainu Bappu

He is a Ph.D. in Astro Physics from Harvard University (1952) and currently is the Director, Indian Institute of Astro Physics, Bangalore. A member of many foreign scientific bodies, he has been recipient of many awards and medals, including the Donohoe Comet Medal in 1949 for the joint discovery of the Bappu-Bok-Newkirk comet. In 1970 he was awarded the Bhatnagar Prize. He is the Chairman of Indian National Committee for Astronomy.

Monday 10th April weekly club meeting had Dr. M. K. VAINU BAPPU speak on the topic THE SAGA OF DISCOVERY. It was one of the finest lectures heard in recent times. Effortlessly delivered in a simple and winsome style, bereft of any technical jargon, it was very well received and no wonder after the meeting was over Rotarians surrounded him, seeking answers on many a scientific issue. In fact one of the visiting Rotarians enquired when he was

likely to visit a particular city so that the club there could invite him for a talk there.

Dr. Bappu drew attention to the fact that the history of human progress has been essentially a story of successful ventures into the unknown, and marked by a constant attempt by mankind to unravel the secrets of nature. Nature by itself was not easily yielding and it required the best in man to try and master it. This in short could be the real content of all the effort, the skill and progress man has registered since the dawn of civilization. Such a constant struggle has now come to be identified as scientific endeavour or research, the climax of which is reached when human efforts succeed and man's efforts triumph over nature.

The speaker cited 4 such recent occurrences:

(a) The parasite of malaria: It was left to Almora born Britisher holidaying in the Ooty hills, Col. Ross in 1891 to start research on the infection carrying odd looking mosquito. On 20th August 1897 at Secunderabad—very much near Begumpet airport of to-day—to win a very hard fought battle, in which he had little support from his superiors or friends. In fact Col. Ross used to pay 1 pice to Hussain Khan for every mosquito bite. Col. Ross contribution was for human good and got recognised with a Nobel Prize Award, but the point we must not forget is that it was a triumph of man's relentless search for an answer.

(b) We celebrated the 50th Anniversary of the Raman Effect in Bangalore last month. In 1921 Dr. C. V.

Raman was returning to India after attending an international conference as a representative of the Calcutta University. The blue waters of the Mediterranean made this scientist think and decide to enquire into the properties which made them resplendent blue. On 28-2-1928 by the scanning of light experiment he came to the answer. It was on 15-3-1928 that Dr. C. V. Raman announced this successful experiment at the Physics Lecture Hall of the Central College, B'lore. For this very same discovery, he was awarded the Nobel Prize. Here too the characteristic feature was the small idea leading to lot of combative endeavour.

(c) The Evershed Effect discovered on 7-1-1909 at Kodaikanal was another significant march in man's progress. If one were to see the surface of the sun through a large and powerful telescope, sun spots are quite obvious. In fact there is a systematic radial flow from sun spots and these spots are seats of

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intense magnetic fields. It is quite likely that by the end of this century, flowing from this simple discovery, mankind may find a new source of energy to replace oil and hydro power.

(d) On 10-3-77, an experiment at Kavaloor the discovery of Uranus rings has opened up many potentialities. A ring of satellites surrounded this planet. It was earlier presumed that only Saturn had such icy particles. In fact this was a study spread the world over, by 7 teams, and only 1 in Bangalore and 2 in USA could come out successful. On 11-3-77 a cable went to the clearing house at Cambridge, Massachusetts, USA reporting the finding, which once again proved that perseverance, skill of interpretation, and quickness of conclusion, was an important element in human discovery.

Dr. Bappu opined that for any individual of talents, for basic science research, a favourable nurturing climate was essential. Extending our knowledge and observing new phenomenon was the work of human genius. Have we not seen many a person with an investigative and different bent of mind pursuing a lonely furrow to snap up an answer that makes life easier to live? Such significant discoveries when announced and accepted, make many people sit up and ask, Oh! this data was available and known to us, though not its interpretations and present findings!

He emphasised that what India needed today was great brains, not great instruments. Scientists needed public support and encouragement. Basic research must be treated as a worthwhile activity, whatever be the time or money involved. In fact it was an index of human progress, stability and a guarantee for its continued existence in a positive way. He conceded that India must concentrate on scientific research that had immediate benefits to society. Modern scientific research was competitive and highly costly. We therefore must choose a path that gives us quick results.

Indian scientists were in no way inferior to the world's best. For instance a casual remark 43 years ago while delivering a talk at Harvard by Dr. Megnath Saha set in motion scientists there evolution of space vehicle that

could orbit high above earth's atmosphere to yield valuable scientific data. Celestial mechanics and Space Research are bound to make man's life easier and more comfortable, but all this needs society support, encouragement and a friendly patience.