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India—Rockets at Thumba Title 121

It would have been a pleasant break, but after a night's rest and a real English breakfast, another reminder of an Empire lost, we moved further south to the Thumba Equatorial Rocket Launching Station almost directly on the Magnetic Equator. The Geographical Equator is the ideal rocket launch site to leave the planet, as there the Earth's rotation gives the rocket the maximum additional velocity. In comparison, Thumba is about 900 km, Cape Kennedy about 3000 km and Kourou about 500 km north of the geographical equator.

Thumba's facilities, when we visited them, were being built up from the beginning through donations from, and by agreements with, France, the Soviet Union and the American Space Agency, NASA. The French Centaur Rocket was then assembled in Bombay. In its own way, Thumba was small enough to see it all in a one-day's visit, the store, the launch tower, the single rocket, the palm trees, the sandy beach and behind all, the Indian Ocean. An old deconsecrated church was used as an office. I said to Victor McElhenny, who knew Cape Kennedy as well as I did: "A bit small to reach the Moon"and he replied "It makes me feel sad, as I always do, when visiting poor relatives".

We saw a Centaur rocket being made ready for launching. It was programmed to fire up to a height of 100 km and there to discharge a cloud of sodium vapour so that scientists on the ground could study the velocity and direction of the wind. A nearby American Nike rocket was lying there, which was to repeat the same experiment at dusk, when the luminous sodium cloud would be particularly clear against the dark sky. For demonstration purposes a radar test rocket was fired for us and we could watch its accurate performance on radar screens inside a mobile American test vehicle.

The Soviet Union had supplied a very useful Minsk II computer, but Britain had contributed nothing, I was told. "We would greatly welcome collaboration with British scientists" Dr H.G.S. Murthi, the Test Director told me. The Thumba Station is an integral part of the Indian Atomic Energy Authority, relying on the scientific and engineering skills of Trombay. It was therefore not surprising that Homi Bhabha, the Director of the Atomic Energy Authority, should have included Thumba in our all-India tour.

About 10 years after our visit, the first satellite built by India was launched by Russia. It was named Aryabhata after an Indian astronomer of the 5th century. It was reproduced proudly on an Indian 2 rupee banknote, and has remained until the time of writing the only satellite ever to be pictured on any banknote.

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