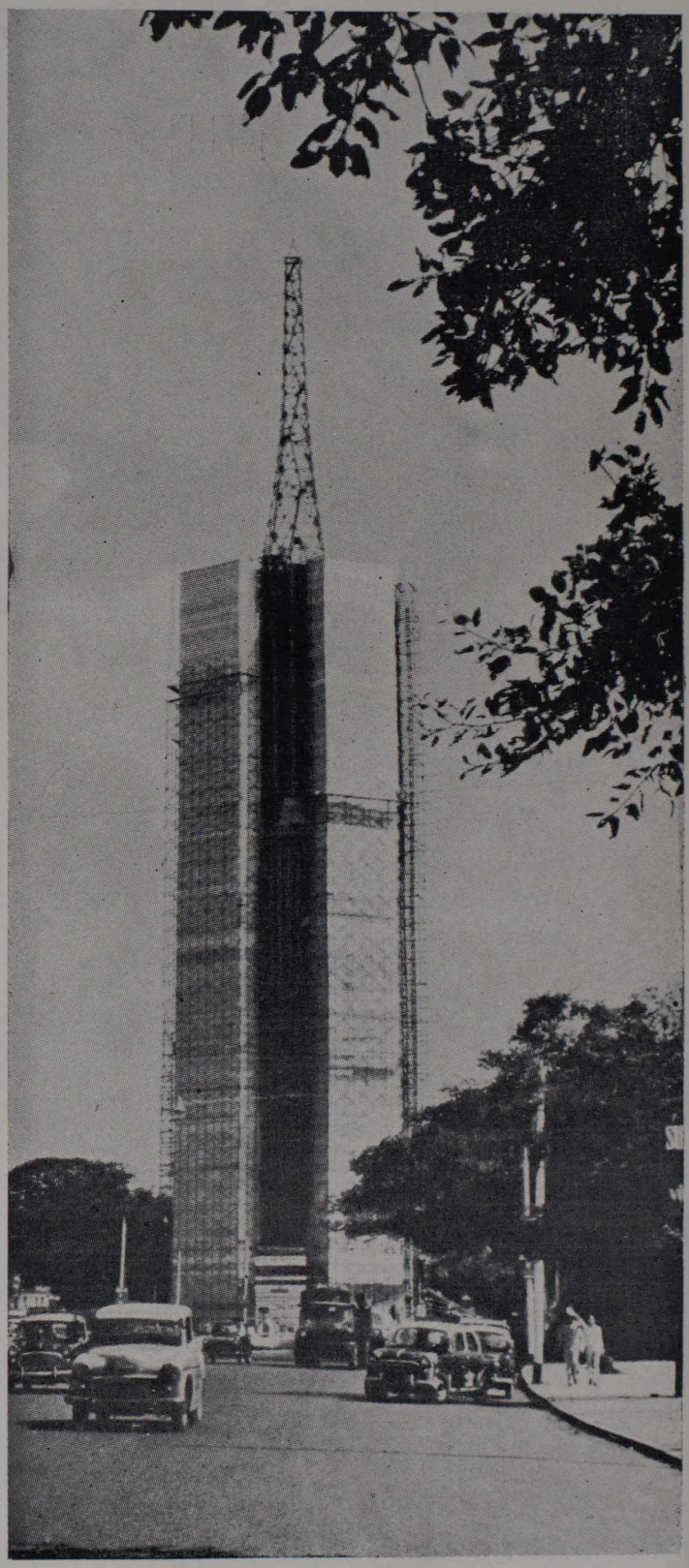
One hundred years ago the first telegraphic message was transmitted from London to Bombay by submarine cable. Now, another revolutionary means of communication will link India with the rest of the world—the communications satellite.

With the commissioning of its first commercial satellite communications earth station, India enters the new age of space communications. The sentinel in the sky that enables India to talk with the rest of the world is Intelsat III, successor to America's Telstar and Syncom satellites—which in the early 'sixties first demonstrated the feasibility of such a communications network. With the signals bounced off Intelsat III, the communications satellite stationed over the Indian Ocean, it is now possible to talk with Ottawa, London, Moscow, Tokyo, or Washington with clarity and speed at any time of the day or night. Other services are being provided for leased teleprinter, telegraph, data transmission and radiophotos. All India Radio will be able to transmit live television programmes from other parts of the world—initially through Bombay, where the TV service is scheduled to begin next year. Concentrated beams from the satellite—pencil beams, as they are called—make possible worldwide TV relays.

The technological marvel—the earth receiving station—which makes all this possible is located in a natural bowl surrounded by hills in Arvi, some 240 kilometres east of Bombay. Arvi was a natural choice for an earth station because it is cut off from static and electronic noise, which can interfere and even drown out the faint radio signals coming from the satellite. The only noise that breaks the tranquillity of the 89-hectare Arvi complex comes from its two generators.

The most impressive feature of the Arvi station is the gigantic parabolic antenna that dominates the skyline and dwarfs the surroundings. Some 30 metres in diameter and weighing 300 tons, it has been manufactured in India. Fully manoeuvrable, it automatically tracks Intelsat III, hovering 36,000 kilometres out in space. The design ensures that the antenna remains unerringly pointed towards the satellite in winds up to 112 kilometres per hour.

Sending out powerful radio signals to the satellite is relatively simple compared to receiving the feeble signals, which have to be ampli-



India's gateway for overseas telecommunications through space is Bombay's new skyscraper, the 76-metre high Videsh Sanchar Bhavan.