

LARGEST RADIO TELESCOPE

INSTRUMENT TO COST £336,000

BRITAIN'S LEAD IN NEW FIELD

Unexplored regions of the universe will be opened to astronomers when the world's largest radio telescope is completed at Jodrell Bank, in Cheshire. Britain may thus expect to maintain the lead in this comparatively new field of research, which was pioneered by Manchester University under the guidance of Professor A. C. B. Lovell. Construction of the telescope is expected to start this summer and will, it is hoped, be finished in less than four years.

In a joint statement issued yesterday by the Department of Scientific and Industrial Research and the Nuffield Foundation it was announced that the Government, through the D.S.I.R., and the foundation have decided jointly to provide a steerable radio telescope for Manchester University. The total cost is expected to approach £336,000, half of which will be paid by the foundation and half borne on the vote of the D.S.I.R.

With the new equipment it should be possible to find out a good deal more about the Milky Way, and it is hoped that the new telescope will enable additional information to be obtained about the sun, meteors, the moon, and some of the planets. It will also be possible to pursue further the mysterious invisible "radio stars," the existence of which was not suspected until it was found that these "stars" were emitting radio waves that could be detected on earth.

In Great Britain climatic conditions have severely handicapped visual astronomy, but since the war the techniques of radar and radio, applied to astronomy, have yielded important discoveries about the universe. In this field of radio astronomy the pioneering work of scientists at Manchester and Cambridge Universities has placed Britain in a pre-eminent position. This work has been financed by the D.S.I.R. and the Nuffield Foundation.

WEIGHT OF 1,270 TONS

At Jodrell Bank a fixed radio telescope—a paraboloid aerial, 220ft. in diameter—has been used to pick up radio waves reaching the earth from sources as far distant as the great spiral nebula of Andromeda, 750,000 light-years away; but, though the largest in the world, it is inadequate to carry this research to all regions of the sky.

The new, completely steerable telescope, with a paraboloid aerial 250ft. in diameter, will be free to scan the whole of the sky, and to transmit signals or to receive them from any part of it. The diameter of the platform on which the radio telescope will rotate will be 310ft.; the height to the top of the horizontal axis will be 185ft., and when the beam from the aerial is horizontal the total height will be 300ft. The total weight of the telescope will be 1,270 tons.

The instrument, which will have an aperture a little larger than that of the fixed one at Jodrell Bank, will be used for all aspects of radio astronomy; priority being given to the study of the galactic and extra-galactic radio emissions, with particular reference to the number and nature of the dark "radio stars." It will also be used to plot the intensity of radiation, particularly from those important regions of the Milky Way systems which are obscured from normal vision by the great dust clouds in interstellar space. It is confidently expected that the great instrument will do for radio astronomy what the large visual telescopes in America have done for classical astronomy.