relation between the metre and a suitable wave-length of light.

All who have been brought into contact with Dr. René Benoît, for so many years director of the international bureau, will regret to hear that he will be retiring from that position at the end of the present year. Dr. Benoît has been identified with all the principal researches which have been undertaken at that institution during the last thirty-six years. In this country his services in connection with establishing the relations between the units of the British and the metric systems of weight and measure will be especially remembered.

A GREAT TELESCOPE FOR CANADA.

A NOTABLE addition is to be made to the equipment of the Dominion Astronomical Observatory at Ottawa, Canada. At present its chief instrument is a 15-in. refractor. This has been used mainly for radial velocity determinations, and for some time its limitations have been keenly felt. Using low dispersion, spectrograms of fifth magnitude stars could be obtained, but beyond this it was ineffective, and it was recognised that further progress demanded a more powerful instrument. Supported by various scientific societies and representative astronomers, the chief astronomer, Dr. W. F. King, appealed to the Dominion Government for improved equipment, and the request was successful.

Contracts have been made for the construction of a 72-in. reflector. The optical parts will be made by the John A. Brashear Co., of Pittsburgh, Pa., and the mounting by Warner and Swasey, of Cleveland, Ohio. The cost will be about 90,000 dollars (18,000*l.*).

The focal length of the great mirror will be 30 ft., with a hole ten inches in diameter at its centre to allow for a Cassegrain combination. For this purpose a convex hyperboloidal mirror, with an aperture of 19 in. and a focal length of 10 ft., will be placed 23 ft. above the main mirror. The resulting focal length will be 108 ft.

The mounting will resemble those of the Melbourne and Ann Arbor reflectors. The skeleton tube will be at one side of the long polar axis, nearly midway between its bearings, the balance being restored by the declination mechanism and counterweights on the other side of the axis. It is hoped to have the telescope completed within two years.

The instrument will be used primarily for spectrographic determination of radial velocities. For the brighter stars it will be used in the Cassegrain form just described, the spectrograph being attached in the axis of the tube, below the 10-in. opening in the mirror. For the fainter stars a low-dispersion spectrograph will be attached at the principal focus. Direct photography of nebulæ, clusters, and other small areas of the sky will also be attempted.

To be used effectively, such an instrument demands a suitable position, and for more than a year Mr. W. E. Harper, of the observatory staff, has been investigating the astronomical possibilities of various regions ranging from Ottawa to the Pacific coast. Of all those tested, Victoria, B.C., showed a decided superiority in good "seeing" and small nocturnal range of temperature, and accordingly that place was chosen. The precise site is on Saanich Hill (elevation 732 ft.), about seven miles north of the city, from which it is easily reached by electric railway and carriage road.

The great dome will be 66 ft. in diameter and 60 ft. high. A building to contain offices, library, and reading rooms will also be erected. The total cost of buildings and equipment will be about 200,000 dollars (40,000*l.*). All the plans and specifications have been made by Dr. J. S. Plaskett, after consultation with many experts, and he will be in charge of the station.

C. A. CHANT.

NOTES.

DR. F. W. DYSON, Astronomer Royal, has been elected a correspondant of the Paris Academy of Sciences, in the section of astronomy.

VICE-ADMIRAL SIR EDMOND J. W. SLADE, K.C.I.E., K.C.V.O., has consented to act as president of the Meteorological Conference to be held in Edinburgh next September.

THE Bill introduced in the House of Commons by Sir Frederick Banbury, to prohibit experiments on dogs, was withdrawn on Tuesday, June 30, after a number of amendments to the principal clause had been carried in the Standing Committee appointed to consider the Bill.

MR. W. O. REDMAN KING, lecturer in zoology at the University of Leeds, has been appointed Ray Lankester investigator at the Marine Biological Laboratory at Plymouth, in succession to Prof. E. L. Bouvier, of Paris. The investigator is required to undertake research work of his own choosing at the laboratory for a period of five months, the emolument being 70*l.*

SIR JAMES CAIRD, of Dundee, has given 24,000*l.*, free of any conditions, to Sir Ernest Shackleton's Imperial Trans-Antarctic expedition. This gift relieves Sir Ernest of anxiety as to the financial side of the expedition, which will now be able to start well equipped in about a month's time. Further subscriptions would, however, be not unwelcome, and would be used to obtain accessories for increased efficiency.

THE Geologists' Association has arranged a long excursion to the Rhenish Westphalian Upland, including the volcanic districts of the Eifel, Siebengebirge, etc., on September 4–19 next. The various daily excursions will be attended by Prof. G. Steinmann, Dr. Tilman, and others as directors. The official party will leave Charing Cross on September 4, at 9 p.m. The excursion secretary is Mr. E. Montag, 18 Woodchurch Road, Prenton, Birkenhead.

AT the annual meeting of the Royal Society of Arts, held on Wednesday, June 24, the Duke of Connaught

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