

In the present article it is impossible to go further into details. The apparatus as illustrated is rather crude and elementary, but I think enough has been said to justify the view that a good deal of useful work might be done by working with apparatus on these lines.

W. R. COOPER.

THE INTERNATIONAL UNION FOR COOPERATION IN SOLAR RESEARCH.

A CONFERENCE of the International Union for Cooperation in Solar Research will be held on September 27 at New College, Oxford, by invitation of the warden and fellows of the college. The following delegates of societies constituting the union have signified their intention of being present:—

From the United States, Profs. Hale and Campbell; from France, Messrs. Janssen, Deslandres, Fabry, Perot, and the Comte de la Baume Pluvinel; from Russia, M. Belopolski; from Germany, Prof. H. Kayser; from Holland, Prof. H. H. Julius; from Sweden, Prof. Knut Ångström; from Switzerland, Prof. A. Wolfer; from Austria, as representative of the International Association of Academies, Prof. Edmund Weiss. Great Britain will be represented by Profs. Turner, Schuster, and Fowler, Father Cortie, Mr. W. E. Wilson, Major Hills, Dr. W. J. S. Lockyer, and Dr. Halm. The subjects of discussion will include the following:—

The fixing of standards of wave-length in spectroscopic research, cooperation in the measurement of the intensity of solar radiation, cooperation in recording solar phenomena by means of photographs of the disc, spectroheliograph records and observations at the limb of the sun.

The foreign savants will be lodged at and entertained by New College. On Friday, September 29, the president of the Astronomical Society and Mrs. Maw will give a reception at their residence in London, and for the following day invitations to visit the observatories at Cambridge have been received from Sir Robert Ball and Mr. Newall. Prof. Schuster is acting as chairman of the executive committee which was appointed last year at the first conference of the union held at St. Louis.

NOTES.

THE meeting of the International Meteorological Conference at Innsbruck was opened on Saturday last, September 9, and the full sittings began on Monday. The following is a list of members attending the conference:—F. Åckerblom, Upsala; Rev. P. J. Algué, S.J., Manila; A. Angot, Paris; R. Assmann, Lindenbergl bei Breskow; A. Belar, Laibach; W. v. Bezold, Berlin; B. Brunhes, Puy de Dôme; V. Carlheim-Gyllensköld, Stockholm; V. Conrad, Vienna; P. M. Dechevrens, Jersey; E. Durand-Gréville, Mentone; Sir John Eliot, London; F. Erk, Munich; E. van Everdingen, de Bilt; G. Fineman, Stockholm; Rev. P. L. Froc, S.J., Zi-ka-wei; V. Gama, Tacubaya Obs., Mexico; G. Greim, Darmstadt; J. Hann, Vienna; G. Hellmann, Berlin; E. Hepites, Bukarest; H. Hergesell, Strassburg; H. H. Hildebrandsson, Upsala; W. Kesslitz, Pola; N. v. Konkoly, Budapest; W. Köppen, Hamburg; A. Lancaster, Uccle; W. Láska, Lemberg; E. Lauda, Vienna; J. Liznar, Vienna; Sir N. Lockyer, London; W. J. S. Lockyer, London; J. H. Lyons, Cairo; E. Mazelle, Triest; H. Mohn, Christiania; A. Mohorovičić, Agram; L. Moore, Washington; M. Nedelkovitch, Belgrade; L. Palazzo, Rome; A. Paulsen, Copenhagen; J. M. Pernter, Vienna;

NC 1872, VOL. 72]

F. C. A. Pockels, Heidelberg; P. Polis, Aachen; G. B. Rizzo, Messina; A. L. Rotch, Boston; P. v. Rudzki, Cracow; M. Rykatchew, Petersburg; A. Schmidt, Potsdam; A. Schmidt, Stuttgart; P. Schreiber, Dresden; Ch. Schultheiss, Karlsruhe; Rev. P. Th. Schwarz, Kremsmünster; W. N. Shaw, London; A. Silvado, Rio de Janeiro; R. F. Stupart, Toronto; L. Teisserenc de Bort, Trappes; W. Trabert, Innsbruck; J. Valentin, Vienna; J. Violle, Paris. The members of the Solar Commission are:—M. Angot, Sir John Eliot, Prof. Hann, Sir N. Lockyer (president), Dr. Lockyer, Captain Lyons, Prof. Pernter, Prof. Rizzo, Dr. Rotch, Dr. Shaw, M. Teisserenc de Bort, Dr. Konkoly.

THE Carnegie Institution, Washington, sent Profs. F. Elster and H. Geitel and Herr F. Harms to Palma to make observations of the electric conditions of the atmosphere during the recent solar eclipse. By means of a self-registering electrometer, the variation of atmospheric electricity was photographically recorded, and a series of points of the same curve was taken simultaneously by eye-readings. The ionisation of the air was studied by a "Zerstreuungsapparat," and also by an "Ebert's Fön-counter." Besides these observations, exact measurements of the intensity of the solar radiation within the short wave-lengths were carried out, a peculiar kind of photometer having been prepared for this purpose. It is based upon the property possessed by clean surfaces of the alkaline metals of emitting kathode rays of a density proportional to the intensity of the incident light; by these rays the small residue of gas contained in a vacuum glass bulb is rendered conductive, and a circuit of a current is closed, the intensity of which may be read by means of a d'Arsonval galvanometer. In the apparatus alluded to the sensitive surface consisted of a thin layer of pure rubidium metal. An accuracy of $\frac{1}{2}$ per cent. to 1 per cent. was easily obtained. By a blue Jena glass rays of long wave-length are absorbed before reaching the rubidium surface, so only the blue and violet, and partially the ultra-violet, region of the spectrum remains, and these are the radiations which may be supposed to have an ionising effect on the atmospheric air. The results, as well as the description of the apparatus, will be published in the reports of the Carnegie Institution. Unfortunately the observations, like all others in Spain, suffered from the bad weather conditions. On the day of the eclipse rain fell during the morning; consequently it cannot be considered as undisturbed with regard to atmospheric electricity. The measurements of the solar radiation were possible in a continuous series only from the first contact to the end of totality; the decrease of illumination, therefore, was determined in a satisfactory manner and without any gaps. On the other hand, clouds prevented any reading being taken during the increase of light after totality.

THE photographs of the total solar eclipse, taken by the Solar Physics Observatory Expedition at Palma, have proved to be better than was expected from the state of the sky during totality. A fine picture of the corona was secured with the long-focus mirror, but the clouds were too dense for successful tri-colour photographs to be obtained.

THE visit of the members of the British Association to the Victoria Falls on September 12 was made the occasion of the formal opening of the bridge over the falls, by Prof. G. H. Darwin, president of the association. In declaring the bridge open, Reuter's Agency reports Prof. Darwin to have remarked that the great enterprise of the Cape to Cairo Railway, of which the bridge is a part, had