mittees for issuing a statistical year book based upon standard forms for the collection of data relating to the power resources of the world upon a comparative basis, in connexion with which a mass of preliminary work has been accomplished during the past three years. Arrangements were made for the publication of selected annotated bibliographies upon a uniform system. The possibility of issuing a periodical Central Office bulletin was explored. Lastly, a special sub-committee was appointed for the very purpose or re-examining the activities and organisation of the World Power Conference. The following passage occurs in the Report presented on behalf of the International Executive Council at the closing meeting of the Berlin Conference : " The International Executive Council has set up on the basis of some definite proposals put before it, a Sub-Committee which is to submit to its next meeting in 1931, after consultation with the National Committees, certain proposals promoting the rational development and increasing the usefulness of the World Power Conference ".

<div style="text-align:right">C. H. Gray
(Secretary, International
Executive Council).</div>

Central Office,
World Power Conference,
63 Lincoln's Inn Fields,
London, W.C.2.
July 24.

Ultra-Violet Light and Atmospheric Pollution.

There are so few manufacturing towns where observations have been taken of the incidence of ultra-violet light that Mr. Bower's results which are given in a letter to Nature of July 12, p. 59, are very welcome. On the average of three years he finds that Sunday is a day with 12 per cent more ultra-violet light than the average of all days of the week. In Rochdale, observations in 1929 show Sunday also to be a day of more ultra-violet light than the average of all days of the week, and the excess is 12 per cent, which is in exact agreement with Mr. Bower's results for Huddersfield.

Now in Rochdale a daily record has been kept of the soot-fall and it is found that the number of particles deposited on Sundays is 29 per cent *less* than the average of all days, and there is therefore direct evidence that reduction in soot-fall and increase of ultra-violet radiation occur together. The falling off of deposited particles concurrently with the increase of ultra-violet rays which is found on passing from town to country is evidence in the same direction. There can be little doubt that factory smoke in manufacturing towns cuts off much of the valuable light of the sun.

By the kindness of Sir Leonard Hill I have been supplied with the daily observations of ultra-violet light in 1929 at London, Cardiff, Lowestoft, and Ventnor, and I have worked out the Sunday and week-day values. Confining attention to Lowestoft and Ventnor, two seaside resorts free from factory smoke, we have as the combined percentage result :

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Average.
97	100	104	100	104	101	94	100

Here Saturday and Sunday have less ultra-violet light than week-days. Contrast with this the combined result for Huddersfield and Rochdale, which is as follows :

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Average.
112	99	99	94	94	99	103	100

It seems reasonable to suppose that at the seaside resorts the week-end activities increase the pollution of the air, and this is the more probable as the diminu-

tion on Saturday and Sunday of ultra-violet radiation is mainly in evidence in the summer—the holiday time.

Thus the measurement of ultra-violet light, in addition to the value attached to it by medical men, will probably provide a new and it may be a delicate test for atmospheric pollution.

<div style="text-align:right">J. R. Ashworth.</div>

Rochdale, July 22.

Atomic Diameters of the Rare Gases.

In our note on the crystal structure of krypton in Nature of June 14, p. 889, we gave the ratios of the distance of nearest neighbours in the crystal lattice to the atomic diameter deduced from viscosity measurements for neon, argon, krypton, and xenon, as 1·35, 1·29, 1·22, and 1·23 respectively.

We took the values of the atomic diameters calculated by Herzfeld from measurements by Rankine (" Handbuch der Physik ", vol. 22). We owe to Prof. Rankine himself the information that these values must be considered to be too large, as Herzfeld made use of the value of Sutherland's constant given in the Landolt-Börnstein Tables of 1923, which value is too low (cf. Rankine and Smith, *Phil. Mag.*, **42**, 601 ; 1921). Using the values of the atomic diameters 2·30, 2·87, 3·10, and 3·41 A. calculated by Prof. Rankine, the ratios become 1·39, 1·34, 1·28, and 1·28.

The value for krypton is lower than would be expected ; this may perhaps be explained by the fact that its structure was investigated by us at a relatively much lower temperature compared with the Debye characteristic temperature than was the case for the others. Indeed, Natta and Nasini's value of the distance of nearest neighbours at the temperature of liquid nitrogen leads to 1·32 for krypton.

<div style="text-align:right">W. H. Keesom.
H. H. Mooy.</div>

Leyden.

Gamma Rays of Potassium.

Two years ago W. Kolhörster published a short paper [1] on the gamma rays of potassium, which he ascertained partly by measurements in the Stassfurt mines and partly by analysing the radiation of a greater quantity of sylvin supplied by Messrs. C. A. F. Kahlbaum.

In our Institute ionisation measurements have been carried out using a large ionisation chamber of a capacity of 125 litres and about 120 kgm. of chloride of potassium. Kolhörster's results have been confirmed so far that chloride of potassium really emits penetrating radiation, the intensity of which is proportional to the quantity of potassium. The radiation is complex and consists of at least two groups of gamma rays. By absorption of these rays in lead 0·5-4·0 cm. thick an absorption coefficient for the first group of rays has been found of approximately the same order as in the case of the gamma rays of radium, whereas the second group is about twice as penetrating as the gamma rays of radium. On the other hand, the intensity of the gamma rays of potassium is much lower than that which would correspond to its period of $T = 10^{12}$ years, if we assume that every beta ray of potassium is followed by one gamma ray. A detailed description of the work done will be published next autumn.

<div style="text-align:right">F. Běhounek.</div>

State Radiological Institute,
Prague-Podoli,
July 3.

[1] W. Kolhörster, *Die Naturwissenschaften*, **16**, 28 ; 1928.