

### The Royal Society of New Zealand

SCIENTIFIC work in New Zealand, so far as research is concerned, has largely depended upon the organisation of the New Zealand Institute, which has now been honoured by the title of the Royal Society of New Zealand.

The New Zealand Institute Act was passed in 1867, and in March 1868 the body began to function. During the sixty-six years of its existence the Institute has encouraged workers in all branches of science and has published a large number of their researches. The first volume of its *Transactions* appeared in 1868, and annually (with one exception during the War) since that date the publication has been produced. It may truly be said that the whole set of sixty-four volumes contains an epitome of the research work in science that has been done in the Dominion.

The recognition of the value and importance of the scientific work of the members of the Institute by the grant of a Royal Charter is a matter that gives the greatest satisfaction to its members. It is perhaps only natural in such a country as New Zealand, where natural objects both animate and inanimate are in large part novel to people from Europe, that observational science would attract the greatest number of research workers. Actually it will be seen that articles on zoology, botany and geology have throughout filled a large proportion of its pages, now perhaps more than ever. Those whose work is in the sciences of chemistry and physics perhaps feel their remoteness from the centres of scientific life more acutely, and wish also to publish in journals which have a wider circulation than the *Transactions of the New Zealand Institute* could claim. Even so, it is a matter of great satisfaction to know that the first scientific research of Lord Rutherford appeared in its pages.

At the meeting of the Council of the Institute on

May 16, the actual change took place. The meeting received a letter from the Governor General, Lord Bledisloe, to whose initiative and great assistance the actual grant of the charter is largely due (see *NATURE* of July 14, p. 59). His Excellency's letter, which aroused great enthusiasm at the meeting, included the following significant words: "To starve knowledge (and especially that clearly ascertained and systematised knowledge which we designate science) or to stint it of its due reward is to court national disaster. If science, in the inevitable evolution of human genius, has contributed to economic adversity, it is because it has been applied in part only to the solution of human problems, and certain it is that only by the further application of science in all its ramifications and by a far more generous and enlightened recognition of its beneficent potentialities by the world's rulers will effective remedies for current human disorders be found."

In the evening, Prof. R. Speight, professor of geology in Canterbury College, Christchurch and president of the Royal Society of New Zealand, delivered an address in which he summarised the work of the Institute in various branches of scientific inquiry. He discussed the standing of the Institute (now the Royal Society) in the scientific life of the country in the past and at the present time. Prof. Speight stated that in his opinion "the activity of the Society and the interest it shows in scientific matters had never been greater".

The Council of the Royal Society were the guests of the president, Dr. J. Henderson, and Council of the Philosophical Society of Wellington on the following day. Addresses were delivered by Dr. Turner, Prof. Burbidge and Dr. L. Cockayne, and excursions were made to institutions and localities of scientific interest in the afternoon. The occasion provided much opportunity for scientific conference and discussion.

### Royal Photographic Society's Annual Exhibition

THE Royal Photographic Society's seventy-ninth annual exhibition was opened on September 7 and will remain open until October 6. The hours are from 10 a.m. to 9 p.m. on all weekdays except Tuesdays and Fridays, when the closing hour will be 6 p.m. Admission is free.

As usual, the main part of the exhibition is pictorial, yet there is a considerable amount of work of scientific interest. Trade exhibits of apparatus and materials have been given greater prominence than in most former years. Particularly noticeable are the various substandard cinematograph cameras and projectors, some of which are now obtainable with sound-recording and reproducing equipment. The small hand camera, too, is to be seen in great variety with all its special accessory apparatus.

H. E. Edgerton and K. J. Germeshausen, of the Massachusetts Institute of Technology, show a series of instantaneous photographs of rapidly moving objects. The time taken for a single exposure in most of these is  $1/75,000$  of a second; in one set of pictures, however, the exposure time was only  $1/1,000,000$  of a second. The vortices in the air from an electric fan, a textile spindle turning 10,000 times in a minute, and several other rapidly moving objects are shown apparently stationary.

Aerial photography is fairly well represented, and there is one photograph by H. Frederick Low entitled "Archæology from the Air"; underlying ground conditions produce a variation in the appearance of a growing crop as seen from the air, which enables the outline of the original workings to be clearly mapped.

Mr. G. Aubourne Clarke, of Aberdeen, already well known for his studies of cloud formations, shows a fine series of photographs of clouds. For these he has been awarded the Hood Medal, which is given "in recognition of meritorious performance in any branch of photography".

In radiography, a very interesting development is shown by the Research Laboratories of the Eastman Kodak Company. Radiographs of small animals such as moths, beetles, etc. have been made by using exceptionally soft X-rays. These rays, known as 'Grenz rays', will not penetrate the wall of a normal X-ray tube, so that a special tube with a very thin window had to be constructed. Moreover, they record the texture of paper generally used for wrapping X-ray films, so the films had therefore to be enclosed in a special carrier, the front of which was made from a thin sheet of gelatine dyed to exclude visible and ultra-violet radiation. The tube itself