Canadian National Research Laboratories.

TENDERS have been invited by the Government of Canada for the construction of a National Research Laboratories building that will cost, when finished, approximately three million dollars (Fig. 1). Appointment of chiefs to two of the laboratory divisions has been announced.

Dr. H. M. Tory, formerly president of the University of Alberta and now the president of the National Research Council, has expressed the view publicly that the new home for research in Canada will be one of the finest to be found in any country. It is being built on the banks of the Ottawa River in the capital city. Designed in the form of a giant figure ' 8 ', it will stand 60 feet (four stories) high, 418 feet long, and 176 feet deep. Two hundred and fifty thousand feet of floor space will be provided. Library accommodation will be for 300,000 volumes. An assembly hall and associated rooms will be capable of accommodating the staff and the various scientific societies of the Dominion.

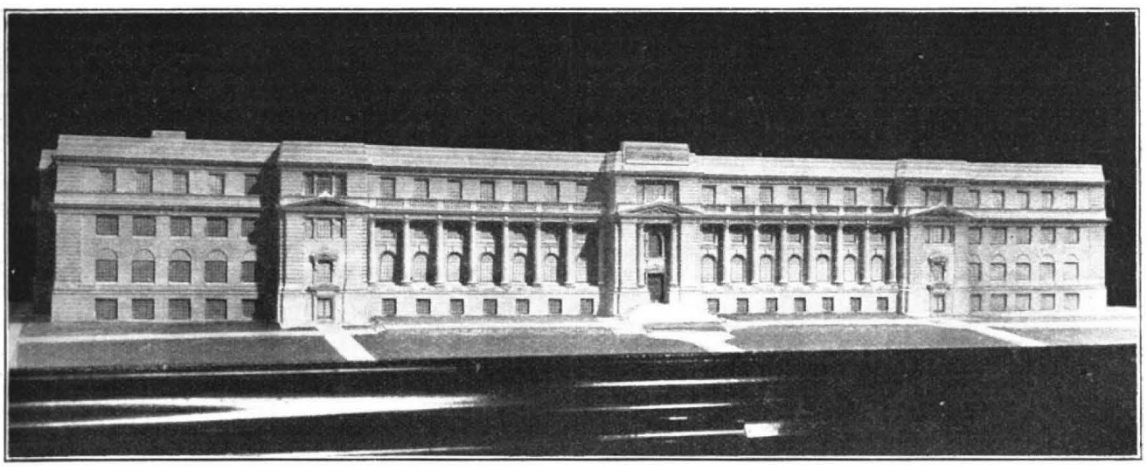

FIG. 1.—Architect's model of the National Research Laboratories building to be constructed by the Government of Canada in the capital city of Ottawa.

Plans call for the development of the following divisions: the divisions of physics and engineering physics, to the head of which Dr. Robert William Boyle, dean of the faculty of applied science at the University of Alberta, has already been appointed; the division of industrial chemistry, to the head of which Dr. George Stafford Whitby, professor of organic chemistry at McGill University, has been appointed; the division of economic biology and agriculture, to which Dr. Robert Newton, professor of field crops and plant bio-chemistry at the University of Alberta, is the acting head; the division of industrial engineering, the division of textiles, the division of standards, and such other divisions as improvement in industrial processes, the development of natural resources, and the utilisation of waste require.

Dr. Boyle was graduated from McGill University in 1906, and from then until 1909, when he received the Ph.D. degree and the 1851 scholarship, he did research on the properties of matter and radioactivity. From 1909 until 1911 he continued his work under the direction of Sir Ernest Rutherford at the University of Manchester. Returning to Canada, he lectured at McGill, was appointed assistant professor in 1912, and the same year was made professor in the University of Alberta. During the War years, on the recommendation of Sir Ernest Rutherford, Dr. Boyle was engaged in research for the Admiralty Board of Invention and the anti-submarine division; and in that work he developed important applications of ultra-sonics. In 1924 he tested apparatus for the detecting of icebergs and the sounding of depths in the Belle Isle Straits.

Dr. Whitby studied chemistry under Sir William Tilden at the Imperial College of Science and Technology, London, graduating in 1906 with the Frank Hatton prize. He was one of the first scientific workers to study the rubber industry, and one of his books thereon, " Plantation Rubber and the Testing of Rubber ", 1920, has markedly influenced the trend of rubber research. In recognition of his contribution in that field, the Institution of the Rubber Industry (Great Britain) recently awarded him the Colwyn gold medal. In 1928 the distinction of Officier d'Académie was conferred upon him by the Government of France. The same year he was president of the Canadian Chemical Association.

As assistant director of the division of physics and engineering physics, Prof. John Hamilton Parkin, associate professor of mechanical engineering at the University of Toronto, has been appointed to direct the development of national aeronautical research laboratories.

Plans for the new National Laboratories building call for completion early in 1931. Meanwhile, temporary laboratory space has been provided.

University and Educational Intelligence.

EDINBURGH.—Dr. Alexander Nelson, formerly superintendent of research in the Department of Agriculture in Tasmania, has been appointed lecturer in the Department of Botany, and Dr. W. H. McCrea, formerly senior scholar of Trinity College and Isaac Newton fellow in the University of Cambridge, has been appointed lecturer in the Department of Mathematics.

MANCHESTER.—Prof. H. J. Fleure, professor of geography and anthropology in the University College of Wales, Aberystwyth, has been appointed professor of geography.

THE Carnegie Foundation for the Advancement of Teaching published in its last annual report an account of an educational inquiry differing from those which

it has hitherto undertaken or promoted, in that it involves tracing the progress of individual students throughout their careers in secondary schools and in college. Previous studies have presented in cross section pictures of a situation at a selected time without regard to what went before or followed in the experience of the individual student. The investigations, which will necessarily be prolonged through a period of ten years, will embrace the work done in most of the secondary schools and fifty colleges in Pennsylvania, and will, it is hoped, throw light on the validity of currently used methods of classification of pupils according to abilities and interests, on the degree of consistency to be looked for in normal educational growth, and on the actual efficiency of secondary and higher institutions in the organisation and administration of courses of study, the evaluation of educational products, and the rewarding of student effort. In tracing the progress of individual students through college, material will, it is thought, be obtained for dealing with difficulties resulting from the kaleidoscopic nature of the elective curriculum and the bewildering variety of personal contact and advice, much of it of a partisan character, to which the college entrant is exposed. Much might be done, it is suggested, in "initiating vigorous, wholly avowed and official measures to *understand* the student, and thus to discharge primary obligations of the college". Other matters of general interest in the report are reviews of the rise and present position of endowed foundations in the United States, of professional salaries, and of pension systems.

THE League of Nations sets a high value on the dissemination among the children and youth of a knowledge of its aims and achievements. The question how this may best be accomplished has been investigated during the past eighteen months by a joint committee representative of English and Welsh education authorities and teachers' professional associations, and the conclusions arrived at as a result of its labours are now published in a pamphlet entitled "Education and the League of Nations". The committee's investigations embraced work done in elementary and secondary schools and in training colleges and university training departments. It is in the elementary schools that progress has been most marked. In secondary schools there is a disposition to look askance at instruction in the principles and activities of the League as 'propaganda', and to mark time pending adaptation of examination syllabuses by the various school examination authorities to the League's educational policy. The teacher training institutions do not seem to have made hitherto an adequate response to Lord Eustace Percy's appeal to the conference of local education authorities in June 1927, when he pointed out that it is above all the students at these institutions for whom opportunities must be provided for acquiring a sound knowledge and a balanced view of the origin and work of the League. In its recommendations the joint committee has shown how this ideal may be translated into practice. It deals also with such matters as school celebrations, visits to Geneva, interchange of correspondence, school journeys, and the interchange of schoolboys and girls. If the minds of the rising generation are to develop the attitude postulated by the Kellogg Pact, it is essential that measures such as those recommended should be adopted, and not only in Great Britain but also among other, including less peace-loving, peoples. Copies of the pamphlet can be obtained (price 3*d*. each) from the office of the League of Nations Union, 15 Grosvenor Crescent, London, S.W.1.

Historic Natural Events.

Jan. 1, 1926. Rhine Floods.—The river began to rise rapidly on Dec. 27, and by Jan. 1 stood 32 feet above normal low water at Cologne, the highest level of the Rhine on record. Three-quarters of the town was under water, which stood 13 feet above the river banks. Great damage was done by the Rhine, Scheldt, and Maas in Holland; dykes burst, and wide areas of low ground were flooded. The floods were caused by heavy rain on the hills coinciding with high winter temperature and the melting of the snows.

Jan. 6–7, 1889. Rime.—After two days of frost and dense fog in Norfolk, the wind changed to south-west, and an unusually thick deposit of ice-needles, up to two inches in length, was formed on the windward sides of exposed objects. Many isolated deciduous trees, especially birch, oak, elm, and poplar, were badly damaged, while nearly all overhead telephone and telegraph wires were broken down.

Jan. 6–7, 1839. Great Storm.—On the night of Jan. 6–7, western and northern Ireland, northern England, and southern Scotland were visited by an exceedingly violent gale from the south-west, probably the worst since that of 1703. Many thousands of trees were uprooted in Ireland, houses were unroofed, chimney stacks and walls blown down. Many vessels were wrecked and there was great loss of life. Menai Suspension Bridge was damaged.

Jan. 6–7, 1928. Thames Flood.—The predicted height of the high tide at London Bridge on the early morning of Jan. 7, that is, the height to which the water would rise if the meteorological conditions were normal, was 21 feet above Admiralty datum. This is not especially high, for the predicted height sometimes reaches 25 feet. The water actually rose nearly six feet above the predicted height, making the highest known level of the Thames in London, and flowed over or through the embankments at several points in the City, Southwark, Westminster, and westward to Hammersmith. The low-lying riverside districts are below the level of spring tides, and were deeply flooded, while fourteen people, most of whom were sleeping in basements, were drowned.

The abnormal rise was due to a 'storm surge' in the southern North Sea. On Jan. 6 a deep barometric depression travelled rapidly across Scotland in an east-south-east direction, and in its rear a gale blew from north-west and north over the North Sea during the evening, driving a storm wave southwards. At 3 P.M. on Jan. 6 the level was 1·6 feet above the normal tide at Dunbar. Travelling along the east coast the wave grew in height and reached Southend at 11 P.M., raising the level 5 feet. Opposite the Thames estuary it divided into three parts; only a small part passed through the narrow Straits of Dover, raising the level about 3 feet, another part travelled north-eastwards along the coast of Holland, and the remainder entered the Thames estuary, reaching London at 1 A.M. on Jan. 7. An auxiliary factor in the London flood may have been the high level of the Thames itself, due to heavy rain and melting snow. On Jan. 7 the flow at Teddington Weir was 9500 million gallons a day, more than double the flow when the river is 'bank high'. This river water would, however, be rapidly distributed in the widening estuary, and probably did not contribute more than a few inches to the height of the tide at London Bridge.

Jan. 7, 1558. 'Calais' Storm.—It is recorded by Holinshed that at the taking of Calais "began a marvellous sore and rigorous tempest, continuing the space of four or five days together". A severe thunderstorm beat down houses and churches.