

THE ROYAL SOCIETY OF CANADA

SEVENTY-FIFTH ANNIVERSARY MEETING

AT its annual meeting, held at the University of Ottawa in June, the Royal Society of Canada celebrated the seventy-fifth anniversary of its foundation. For this occasion a symposium entitled "Our Debt to the Future" ("Présence de Demain") had been organized.

The Society was founded on the initiative of the Governor-General, the Marquess of Lorne, in 1882 for "the promotion of Literature and Science within the Dominion". It is now organized in five sections: (I) Humanités et sciences sociales; (II) Humanities and Social Sciences; (III) Mathematical, Chemical and Physical Sciences; (IV) Geological and Allied Sciences; (V) Biological Sciences; and in so far as barriers between the sections can be crossed with ease, the Royal Society of Canada can contribute to the cultural life of the country by bringing together persons who have achieved distinction in these various branches of learning. It is not, like the Royal Society of London, exclusively devoted to science, and it is required to bring together men speaking two different languages with differing cultural sensibilities.

In the past few years there has evolved a new appreciation of the Marquess of Lorne's idea of the service the Society should render to Canada. It is recognized that the separate sections of the Society can no longer play the parts that are now much more effectively filled by the many associations of specialists such as the Canadian Historical Association or the Canadian Association of Physicists. The Fellows of the Society have to learn to devise new forms of intellectual intercourse to restore cultural unity in the midst of diversity of special interests, and to respond to the need of this rapidly developing country for inspiring intellectual leadership. The time for this change is appropriate, for it accompanies the institution of the Canada Council by the Parliament of Canada.

The symposium was held on the afternoons of June 10, 11 and 12 in six sessions. It was opened by Prof. D. L. Thomson (McGill), speaking on "The Roles of the Scientist and Scholar in Canada's Future" (*Le rôle de l'homme de science et de l'homme de lettres à l'égard de l'avenir du Canada*), Principal W. A. Mackintosh (Queen's), president of the Society, being in the chair. Replete with pointed allusion to the Canadian scene, this address laid most emphasis on the educational processes and institutions by which scholarly and scientific influence can be brought to bear in Canadian life, and commented on current standards of values, with hope for the future of Canadian universities.

The second session, "The Penalties of Ignorance of Man's Biological Dependence" (*Nos Servitudes Biologiques*) was presided over by Prof. E. G. D. Murray, who recently retired from the chair of bacteriology and immunology at McGill University and will edit the book to be published for the Society by the University of Toronto Press based on the symposium. K. W. Neatby (director of Science Service, Ottawa) led off on the theme "We are not masters of our own destiny because many essential contributors to our

existence, or to our destruction, are independent of man, and because of the inadequacy of our knowledge of the genetics and physiology of individual species and the complexities of biological interdependence". Prof. I. McT. Cowan (University of British Columbia) transferred the discussion from plants to animals. The problem salmon versus power on the Fraser River, B.C., evoked comment from the floor that the advent of nuclear power should save the Fraser for the salmon. Dr. G. H. Ettinger (Queen's) discussed man's internal environment, and the lone chemist participating, Dr. R. H. F. Manske (Dominion Rubber Company) concluded by suggesting that the organic chemist can probably play a larger part in coping with the biological problems than the biologists seem to think. These papers were somewhat too condensed for the general audience. The chairman summed up by saying that scientists should be less timid: they should demand and be granted more influence in the use of their knowledge, more say in the determination of financial needs for scientific research and some influence to oppose political expediency in matters affecting man's environment.

On the following afternoon Dr. N. A. M. MacKenzie (University of British Columbia) presided over the session on "The Social Impact of Modern Technology" (*Conséquences sociales des progrès techniques*). The sudden illness of Prof. J.-C. Falardeau (Laval University) prevented his presenting the social scientists' point of view. The session was opened by Prof. V. W. Bladen (Toronto), speaking as economist and humanist on the broad aspects of social adaptation to technological change. Dr. E. W. R. Steacie (National Research Council) emphasized that technological developments come to fruition because society wants them. Instead of laying at the door of science blame for the technical ills that afflict us, we should examine the activities of the advertising fraternity who, he had been led to believe, are products of liberal arts education. Prof. W. H. Watson (Toronto) asserted that to succeed, modern technology has to be good science, and using men for functions that cannot be performed economically by machines demands better, more responsible attitudes to work. He challenged thinkers in the universities to examine whether intellectual stimulus to-day does not lie in the field of the technologists.

The fourth session, "Our Economic Potential in the Light of Science" (*Les découvertes scientifiques et l'expansion économique*), presided over by Prof. H. C. Gunning (University of British Columbia), brought together a geologist, a metallurgist and two economists. Prof. J. E. Hawley (Queen's) presented our dilemma in relation to the mineral resources of Canada: although we have a debt to future generations of Canadians, we have at present one to the free world in need of raw materials. Should we attempt to conserve some or all of those we have, or alternatively can we hope to replace those we use by new discoveries? He suggested that it would be helpful to commit to a national advisory board con-

tinuing consideration of these matters. Prof. L. M. Pidgeon (Toronto) forecast the depletion of accessible deposits of rare metals and the trend towards increased use of those metals that constitute a major portion of the Earth's crust—aluminium, magnesium, iron and titanium. With the exception of iron, they are reactive metals requiring large amounts of energy to produce. This 'high-level' energy is supplied at present from water-power. The trend to remote hydro-electric locations will continue until available sites are saturated. Thereafter nuclear energy may level the cost of electrical energy throughout industrial nations. The economic consideration of mineral resources was taken up by Prof. B. S. Keirstead (Toronto) and M. Lamontagne (Ottawa) and led to some naïve questions by scientists about the technical meaning of 'capital'.

On the afternoon of June 12, the session on "Human Values and the Evolution of Society" (Les valeurs humaines et l'évolution sociale) was introduced by Father Levesque, who presided. The session was intended to bring biology and humanism together, and to this end Prof. T. W. M. Cameron (McGill) spoke about man from 'a worm's eye' view. Prof. A. S. P. Woodhouse (Toronto) made a memorable statement: "Civilization requires to be defined in terms of the good life". Education must extend its influence "from intellectual training which is its centre, to a refinement of sensibility—to the cultivation of understanding, imagination, sympathy and tolerance and to the fostering of talent and of the kind of individuality that operates harmlessly and

beneficially within the framework of a free society". But he was surpassed in creating the transcendental occasion by two poets, the first, Robert Elic (Montreal), speaking in French, and the second, Roy Daniells (University of British Columbia), in English.

The closing session, "Let us Look to our Human Resources" (Recours aux forces spirituelles), was presided over by F. H. Underhill, curator of Laurier House, and opened by Dr. J. K. W. Ferguson (director, Connaught Laboratories). Trends in life expectancy in Canada and elsewhere in the world will affect us by menacing pressures of population and by modifying attitudes and aims in life. Prof. L.-P. Dugal (Ottawa) discussed the need for change in educational patterns in Canada. G. V. Ferguson (editor of the *Montreal Star*) spoke of the influence of mass media, and Dr. W. B. Lewis (Atomic Energy of Canada, Chalk River) of the efficient use of manpower with more than passing reference to the universities.

The symposium, which was open to the public, was well attended.

In the evening following the symposium, at a dinner attended by the French Ambassador and the High Commissioner for the United Kingdom, who presented messages from the French Academy and the Royal Society of London, respectively, the Society was addressed by the Governor-General, Mr. Vincent Massey. His announcement that Prince Philip had accepted the invitation to honorary fellowship in the Society was warmly received.

W. H. WATSON

THE ELECTRICAL RESEARCH ASSOCIATION

NEW LABORATORIES AT LEATHERHEAD

ON June 26, Lord Mills, Minister of Power, opened the Electrical Research Association's new Laboratories at Cleeve Road, Leatherhead. In his address, Lord Mills, who was welcomed by Sir Gordon Radley, president of the Association, stressed his life-long belief in the importance to Britain of industrial research. In his fifty years of participation in industry, he said, he had witnessed the peak of Britain's industrial supremacy based on the exploitation of the steam engine and had seen that supremacy challenged by other countries. These countries had tried, by intensive education and application, to overtake Britain's lead in discovery and inventiveness. Now it seemed to him that a second revolution was upon us, the age of electricity, which was changing our habits of life and our knowledge of world affairs as much as it was altering our material standards. Here then, he felt, was another opportunity which, combined with the dazzling prospects of nuclear power, should excite the imagination of young people and attract them to research and development in the electrical field. Lord Mills unlocked the doors of the main building with a gold key and the laboratories were thrown open for inspection, the principal guests being taken on a conducted tour. Altogether, about five hundred visitors and guests were present, and a similar number attended on the following day.

The site at Leatherhead, which covers about 40 acres, was acquired in 1943 when it became evident

that the 1½ acres containing the Perivale laboratories would be unable to meet the post-war needs of the Association. At that time many of the non-technical and administrative staff occupied part of the building of the Institution of Electrical Engineers in London, for which it was known that the lease would not be renewed when it expired in 1947. A scheme was prepared by the architect, Mr. H. J. Rowse, in 1946, which envisaged centralizing practically all the activities of the Association on the new site, at an estimated cost of £1 million. For certain reasons, the Council deferred implementing this plan and proposed a first stage costing £600,000, which would leave the high-power studies at Perivale and transfer the administrative staff to premises which had been acquired at Thormcroft Manor, Leatherhead. In 1950 this target was further reduced to £400,000, so that the buildings which were, in fact, erected in 1955-56 cost about £328,000 at 1946 price levels, or about one-third of the original scheme.

There are now three buildings on the Cleeve Road site, a main building (Fig. 1), a high-voltage building and a workshop. The main building contains essentially general-purpose laboratories rehousing the work and equipment which have been transferred from Perivale, where it had reached an acute state of over-crowding. It also houses a library and has a total floor area of some 48,000 sq. ft. There are three main floors, which extend through a central section