made possible the very successful Symposia in Madrid in 1956 and in Montreal in 1957.

(*b*) To the Consejo Superior de Investigaciones Científicas, Spain, for inviting the 1956 Symposium to Madrid and for providing the place for it; to the Spanish Local Committee under the chairmanship of A. Durán, and to the many other Spanish persons who assisted, for the work done by them in organizing the meetings and for providing a most pleasing and most interesting programme of social events; and to the Programme Committee under the chairmanship of A. Guinier for arranging the scientific programme of the Madrid Symposium.

(*c*) To the Canadian crystallographers, in particular to the Local Committee consisting of W. H. Barnes (Chairman), and L. G. Berry, R. L. Cunningham and F. W. Matthews (members), for the hospitality which Canada had extended to the members of the Fourth International Congress, and for their great efforts to make the Congress such a success; they were asked to convey the thanks of the Union to the National Research Council for inviting the Fourth General Assembly and International Congress to Canada, to McGill University for providing the place for these meetings, and to these institutions as well as to the University of Montreal, the Province of Quebec and the City of Montreal for their generous hospitality.

(*d*) To the Programme Committee consisting of W. N. Lipscomb (Chairman), and L. G. Berry, C. H. MacGillavry, W. H. Taylor and G. S. Zhdanov (members), and to the organizers for the two Symposia, G. A. Jeffrey and J. M. Cowley, for their work in arranging the scientific programme of the Congress and Symposia.

(*e*) To the U.S.A. National Committee for Crystallography for their assistance which made it possible for a number of scientists from various countries to come to Montreal and to attend the Congress and Symposia.

(*f*) To the retiring President, R. W. G. Wyckoff, the retiring Vice-President, G. Hägg, and the retiring ordinary members of the Executive Committee, J. D. Bernal and A. Tovborg Jensen, for their services to the Union during their period of office; and to the General Secretary, D. W. Smits, for his work for the Union since 1954.

Fourth International Congress

(1) *Scientific Programme*

The scientific programme of the Congress consisted of:

(*a*) A special evening lecture on 'Electron microscope studies of macromolecules' presented by the President of the Union, R. W. G. Wyckoff, at the University of Montreal on 12 July. An introductory speech was first given by J. Wyart. Prior to the lecture tours were arranged through laboratories of the University of Montreal.

(*b*) The following five invited general lectures presented as first topics on the successive days of the Congress:

D. G. Jenkin, J. S. Taylor & L. E. Sutton. Some remarks about our present knowledge of interatomic distances and molecular configurations.

P. B. Hirsch. Imperfect structures.

G. S. Zhdanov. Crystal chemistry.

G. W. Brindley. Clay minerals.

D. Hodgkin. Towards the X-ray analysis of proteins.

(*c*) About 240 contributed papers read during the five days of the Congress at either four or five simultaneous morning and afternoon sessions. Except for about four of these papers, the time allowed for each paper, including the discussion, did not exceed twenty minutes.

(*d*) Papers read at the open meetings which had been organized by the Commission on Crystallographic Data, by the Commission on Crystallographic Teaching, and by the Joint Committee on Chemical Analysis by Powder Diffraction Methods.

Abstracts of the papers presented at the Congress were distributed in advance, and they are reprinted elsewhere in this issue.

(2) *Exhibitions*

An exhibition of various non-commercial devices such as apparatus, gadgets, charts, new materials, methods, etc., was organized by the Commission on Crystallographic Apparatus, and the Commission on Crystallographic Teaching had arranged for a similar exhibition of teaching aids. In addition, a general exhibition of commercial apparatus and books of crystallographic interest was held throughout the Congress; sixteen firms, some representing several manufacturers, participated in this exhibition. The thanks of the Union are due to A. O. McIntosh for his work in organizing the various exhibitions.

(3) *Social arrangements*

(*a*) For the convenience of the members of the Congress the Local Committee had made various arrangements which provided great opportunities of making and renewing personal contacts, and in this way greatly contributed to the success of the Montreal Congress. So it had arranged that about 275 members, most of them from overseas, could stay in the Royal Victoria College, and the Union owes a deep debt of gratitude to the College and its staff for their work and the great hospitality received. The warm thanks of the Union are also due to the McGill University Faculty Club for making its facilities available to the members of the Congress.

(*b*) A programme of social events was organized for the members of the Congress. On 10 July a reception and garden party were given by the Principal of McGill University on the campus of the University. On 11 July Philips Industries Ltd arranged a cocktail reception in the Ritz–Carlton Hotel. On 12 July, after the special evening lecture, the University of Montreal offered the members of the Congress a *Vin d'Honneur*. On Saturday afternoon 13 July a sightseeing tour was held to a section of the St Lawrence Seaway Project. A cruise on a chartered steamer on the St Lawrence River to Sorel took place on Sunday 14 July; on the evening of the same day the Minister of Mines for the Province of Quebec, the Honourable W. M. Cottingham, offered on behalf of the Province a reception and buffet supper in the Windsor Hotel. On 15 July a reception and buffet supper were given on behalf of the City of Montreal by the Mayor of the City, Jean Drapeau, in the Montreal Royal Chalet on the Mount Royal; the reception was followed by a performance of Canadian folk songs and square dances, and by other entertainment.

(*c*) For the accompanying members a further programme of social events was arranged, and the warm thanks are due to the Ladies Comittee under the chairmanship of Mrs W. R. Blackmore for their efforts in

making the stay in Montreal of the accompanying members both interesting and pleasant. The programme included a sightseeing tour through the City of Montreal, and visits to Fort Chambly, to Macdonald College, to the Institute of Experimental Medicine and Surgery of the University of Montreal, to Chateau de Ramezay, and to St Helen's Island. Arrangements also were made for children, including a supervised fenced-off playground on the campus of McGill University.

Symposia

Two Symposia, respectively devoted to 'Physical techniques of crystallographic interest' and 'Electron-diffraction studies of solids and gases', were organized. The introductory lectures, which were presented on 17 July, were as follows:

C. J. GORTER. Magnetic resonance in crystalline solids.
Z. G. PINSKER & B. K. VAINSTEIN. Structure analysis by electron diffraction.

On 18 and 19 July thirty-six contributed papers were read. The procedure at the Symposia followed closely that at the Congress, and after each paper there was opportunity for informal discussion. Abstracts of the papers presented at the Symposia are also printed elsewhere in this issue.

The presence of a number of invited speakers at the Symposia was made possible by a grant received from UNESCO, and by funds solicited by the U.S.A. National Committee for Crystallography under the auspices of the U.S.A. National Academy—National Research Council. The following organizations generously contributed these latter funds: The National Science Foundation, the Research Corporation, North American Philips, and the General Electric Company.

Mineralogical Excursions

Two excursions of mineralogical interest were organized for the period following the Congress; each of them was attended by about thirty members of the Congress. The Union is indebted to the mining companies, officials, and geologists who contributed to the success of these expeditions.

(1) A two-day trip by motor-coach to niobium developments at Oka and asbestos–chromite deposits in the Thetford–Black Lake area in Quebec took place on 18 and 19 July.

(2) A seven-day excursion by motor-coach was held from 20 to 26 July inclusive to the Bancroft and Sudbury areas in Ontario, via Cornwall, Kingston, Madoc, Bancroft, North Bay, Sudbury, and Ottawa. Visits were made to a quartz crystal mine near Lyndhurst, to the Marmora iron pit, to pegmatites, nepheline syenites, and uranium developments in the Bancroft area, to the copper–nickel deposits at Sudbury, and also to a brucitic limestone occurrence in Quebec.

Statutes and By-Laws of the International Union of Crystallography

The following Statutes and By-Laws were adopted by the Fourth General Assembly in Montreal in July 1957.

STATUTES

1. *Objects of the Union*

1·1. The objects of the Union are

(*a*) to promote international co-operation in crystallography;
(*b*) to contribute to the advancement of crystallography in all its aspects, including related topics concerning the non-crystalline states;
(*c*) to facilitate international standardization of methods, of units, of nomenclature and of symbols used in crystallography;
(*d*) to form a focus for the relations of crystallography to other sciences.

1·2. For these purposes the Union shall have the power
(*a*) to adhere to the International Council of Scientific Unions;
(*b*) to organize international meetings and conferences on subjects falling within the purview of the Union;
(*c*) to promote international publication of crystallographic research and of crystallographic works;
(*d*) to set up Commissions or other bodies for special objects;
(*e*) to initiate, promote and co-ordinate crystallographic research requiring international co-operation;
(*f*) to organize Special Projects which shall be financed independently of the regular operations of the Union;
(*g*) to participate in Joint Commissions with other Unions or other scientific bodies in matters of interest to the Union.

2. *Membership*

2·1. The members of the Union are its Adhering Bodies.

2·2. There shall be only one member for each Country.

2·3. The term 'Country' shall be understood to apply to any geographical area with an independent budget for scientific purposes. It shall also apply to any group of Countries which agree to name an Adhering Body and to form a Regional Committee for Crystallography. Whenever the term National Committee for Crystallography is used elsewhere in these Statutes or in the By-Laws it shall be taken to include Regional Committees for Crystallography.

2·4. A Country may adhere to the Union through its National Academy, National Research Council or similar body, or through a scientific society or group of such societies. Each Adhering Body shall form a National Committee for Crystallography to represent it in the Union.

2·5. Membership of a Country in the Union shall be fully effective when the nature of the Adhering Body