

Preface

The International Conference on Magnetism and Crystallography was held in Kyoto, Japan, during the period 25-30 September, 1961. This meeting, organized jointly by the Science Council, the Physical Society and the Crystallographic Society of Japan, consisted of the following two parts which ran in parallel:

Part I: *International Conference on Magnetism*, sponsored by the International Union of Pure and Applied Physics (IUPAP).

Part II: *International Symposium on Electron and Neutron Diffraction*, sponsored by the International Union of Crystallography (IUCr).

The Organizing Committee of the Conference was financially assisted by a grant from the Japanese Government and also by generous donations from numerous industrial and commercial organizations in Japan. Further, financial aids from the UNESCO through the respective Unions and from the Charles F. Kettering Foundation (U.S.A.) played an essential role in the activity of the Organizing Committee. Without these generous supports and donations the Conference would certainly not have been so successful.

The Conference was held in a modern municipal building, the Kyoto Kaikan, and was attended by about 600 Japanese and 225 foreign scientists from 19 countries. The approximate ratio of the people whose main interests were in Parts I and II respectively was roughly 3 to 1.

The formal opening took place on Monday morning 25 September and there the addresses of welcome were given by Prof. I. Nitta, Vice-Chairman of the Organizing Committee, by Dr. K. Wadati, President of the Science Council of Japan, and by Prof. K. Hirasawa, President of Kyoto University. These were followed by addresses by Prof. L. F. Bates representing the IUPAP and Prof. P. P. Ewald representing the IUCr.

The major scientific programme of Part I comprised about 200 papers read during nineteen morning and afternoon sessions, namely Sessions M-1 to M-19, and that of Part II about 100 papers read during eleven morning, afternoon and evening sessions, namely Sessions C-1 to C-11. Besides these there were two Joint Sessions of Part I and Part II, namely Sessions J-1 and J-2, on the topic "Neutron Diffraction Study of Magnetic Materials". These Joint Sessions, in which about 20 papers were read, played an important role in the Conference not only because of the importance of the field but also because they gave a close linkage between the two parts of the Conference.

The programme of the Conference contained also a schedule of a number of social events such as banquet, beer party, cocktail party, concert and sight-seeing tours in Kyoto. The series of social events, and at the same time the schedule of the Conference, were closed by an excursion on Lake Biwa and on Mt. Hiei east of Kyoto, and by a farewell party in the Mt. Hiei Hotel, on the afternoon and evening of Saturday 30 September.

The plan of publishing the Proceedings of the Conference was discussed jointly by the Programme Committee and the Publishing Committee. Taking into account the volume and diversity of the papers, and also the circumstance that the Conference was a combination of Part I and Part II and the Joint Sessions, they concluded that it would be most practical and convenient for readers to have the Proceedings published in the following three separate volumes:

Volume I, papers on Magnetism read at Sessions M-1 to M-19 of Part I of the Conference.

Volume II, papers on Electron and Neutron Diffraction read at Sessions C-1 to C-11 of Part II of the Conference.

Volume III, papers on Neutron Diffraction Study of Magnetic Materials read at Joint Sessions J-1 and J-2 of Part I and Part II of the Conference.

These volumes are to constitute Supplements B-I, B-II, and B-III to Volume 17 of the Journal of the Physical Society of Japan.

This volume, Vol. III, contains the papers presented at Joint Sessions J-1 and J-2 and serves a dual purpose: together with Vol. I, it constitutes the proceedings of the International Conference on Magnetism, or Part I of the Kyoto Conference, and together with Vol. II, the proceedings of the International Symposium on Electron and Neutron Diffraction, or Part II of the Kyoto Conference. The editorial responsibility of this volume was taken by Kei Yosida, Sadao Hoshino, Ryuzo Ueda, and the present writers.

The preliminary compilation of the Discussion was done by the co-chairmen of the relevant sessions using both the manuscripts submitted to them by the speakers and the magnetic tape recordings, and then the drafts were forwarded to the editors for their consideration. They found that it was necessary to make some selections, deletions, changes of order, and slight alteration of the spoken words, in order to make the discussion meaningful and concise. In this respect the editors are responsible for any lack of thoroughness which might have occurred.

Finally the writers wish to express their gratitude to all contributors of papers and participants in the discussion for their kind cooperation in making this volume a very good up-to-date summary of the relevant field of research. They believe that the holding of the joint sessions on the neutron diffraction study of magnetic materials was profitable for both the scientists working in the field of magnetism and those in the field of crystallography. It is also a pleasure for the writers, as scientists of the host country, to acknowledge the many important suggestions and the stimulation which Japanese scientists obtained by their contacts with the scientists from abroad in the field of neutron scattering, not only in relation to magnetism but also in regard to other crystallographic problems including those of technique and apparatus, which were discussed mainly in the D-sessions and in papers which are incorporated in Vol. II.

The writers are indebted to the Commission on Magnetism of the IUPAP and the Commission on Electron Diffraction of the IUCr for giving strong support to the Japanese plan of the Conference, and also to the Publishing Committee headed by Prof. K. Yosida and to the staff of the Journal of the Physical Society of Japan for their cooperation in the publication of the volume

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