

Preface

THE original idea for an international conference on physics education was conceived by Professor Sanborn C. Brown and Dr. W. C. Kelly in the summer of 1958. They were attempting to formulate plans for improving laboratory and lecture demonstrations in the teaching of physics in the United States by studying what had been accomplished in this regard in Europe. It was obvious from the start that such a small area of interest as laboratory teaching could not be separated from the various educational systems of the countries concerned, but no place could be found where these problems had been discussed at an international level. They therefore drew up a proposal for such an international conference. After obtaining the backing of the American Association of Physics Teachers and the American Institute of Physics, Professor Brown sought and received the support of the International Union of Pure and Applied Physics.

During the summer of 1959 a small group of interested physicists met in Konstanz, Germany, and formed themselves into an organizing committee for an international conference on physics education and elected from among themselves a chairman and a secretary. This group consisted of Professor S. C. Brown (U.S.A.) chairman, Mr. N. Clarke (U.K.) secretary, Professor P. Fleury (France), Dr. E. Hutchisson (U.S.A.), Professor T. Kinbara (Japan), Professor W. Kroebe (Germany), Professor E. Persico (Italy), and Professor L. Weil (France). This committee laid down the plans for the Conference, including topics to be discussed, methods of selecting delegates, exhibitions of teaching aids, and the most desirable place for the Conference to be held. The guiding principles agreed on were the following. The Conference should be given over largely to discussion, and should cover the whole range of physics education. So that real discussion should be possible, it was decided that the Conference should, if possible, be limited to 80 to 100 people, and the size of each delegation should be based very broadly on the number of contributory units donated to the International Union of Pure and Applied Physics, this being taken as a rough measure of the development of physics

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and physics teaching in the countries concerned. To stimulate discussion, formal papers would be submitted to the secretary before the Conference, to be printed and circulated at least a month before the Conference convened. UNESCO HOUSE in Paris was the preferred location because of the simultaneous translation facilities there.

The necessary financial backing for such a conference figured largely in the discussion, and most members of the group agreed to pursue financial support. The organizing committee empowered Professor Brown and Mr. Clarke to make all further decisions, and another meeting was arranged between them and the French representatives, to be held at Paris in October.

The meeting in October, 1959, in Paris, attended by Professor Brown and Mr. Clarke, laid the groundwork for the financial backing by the International Union of Pure and Applied Physics, represented by their Secretary-General, Professor P. Fleury, by the Organisation for European Economic Co-operation, represented by Professor L. Weil, and UNESCO, represented by Professor V. A. Kovda and Dr. H. Roderick. Subsequent to this meeting, Dr. Roderick (UNESCO) was asked to join the organizing committee.

To carry on the heavy responsibility of arranging the exhibitions of apparatus and films and books, a subcommittee was formed, the duties of which were far more time consuming than either its members or those of the organizing committee anticipated. The success of these features of the Conference are all because of the unceasing labor of this subcommittee, consisting of Professor A. Maréchal (France), Dr. W. C. Kelly (U.S.A.), Mr. G. R. Noakes (U.K.), and Mr. G. Saada (France).

The details of the Conference itself form the substance of this volume. At the close of the Conference, its two officers undertook to carry on immediately with the preparation of this volume so as to make its early publication possible. They retired for two weeks to a small but delightful inn on the banks of the river Thames, whose peaceful atmosphere, threatened by the noise of typewriters, proved ideal for the purpose. There they immersed themselves in the pre-printed papers and the tape recordings of the entire Conference, to produce these proceedings. It was obviously neither possible nor desirable to publish either all of the material that was submitted as preprints or all the discussion that took place during the Conference. The editors have tried very hard to maintain a suitable balance between brevity and completeness; if the Conference delegates feel that

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some of their most cherished points have been omitted, we trust they will be charitable to our efforts.

No undertaking of such a magnitude as this Conference can be successful without large financial aid. We are deeply grateful to the International Union of Pure and Applied Physics, to the Organisation for European Economic Co-operation, to UNESCO, and to the United States National Science Foundation, for direct financial aid. Equally valuable were the support of the Secretariat in London by the (British) Institute of Physics and the support of the chairman's administrative function by the American Institute of Physics and the American Association of Physics Teachers.

Many people labored long and hard both before the Conference convened and during its operation. Professor P. Aigrain of the Ecole Normale Supérieure and Professor P. Fleury of the Institut d'Optique did an enormous amount of work in connection with the detailed arrangements in Paris. Mr. J. R. Gass and Mr. L. Vincent of O.E.E.C. gave us great help, particularly on the financial side. At UNESCO HOUSE we were very grateful for the detailed arrangements so capably made by Dr. Roderick, Mr. J. A. Mussard, and Mme E. Thierry-Mieg.

From the opening speech of the Conference on, it was obvious that the delegates wanted the Conference to result in concrete plans for future international co-operation. During the Conference, the chairman appointed a Committee on Resolutions, which labored to reduce the 51 resolutions submitted to the manageable and unanimously agreeable set that is published in this volume. We are very grateful to this committee under the able chairmanship of Professor A. M. J. F. Michels (the Netherlands). The rest of this hard-working committee consisted of Professor B. Rosen (Belgium), Professor P. Fleury (France), Professor D. Sette (Italy), Professor T. Kinbara (Japan), Dr. M. Halaunbrenner (Poland), Professor G. K. T. Conn (U.K.), and Professor J. W. Buchta (U.S.A.).

A special kind of thanks goes to the chairman's wife, Lois Brown, whose Paris vacation consisted of long hours in the windowless conference office in UNESCO HOUSE and in Streatley, almost continually in range of the sound of tape recorders and typewriters. Thanks are also due to the conference secretariat, Miss Paula Bacon, Miss Jennifer Clarke, and Mme Alice Vukmirovic in Paris, and to Miss Phyllis Powell for her help with the typing of the manuscript of this volume in Streatley.

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S. C. B.
N. C.

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