

## Books Received

**THEORY OF FLOW AND FRACTURE OF SOLIDS. Volume I (Second Edition).** By A. Nadai. 572 pp. McGraw-Hill Book Company, Inc., New York, 1950. \$10.00.

**MATHEMATICS: QUEEN AND SERVANT OF SCIENCE.** By E. T. Bell. 437 pp. McGraw-Hill Book Company, Inc., New York, 1951. \$5.00.

**SOME APPLICATIONS OF NUCLEAR PHYSICS TO MEDICINE.** By W. V. Mayneord (British Journal of Radiology Supplement No. 2). 290 pp. British Institute of Radiology, London, 1950.

**BIOPHYSICAL RESEARCH METHODS.** Edited by Fred M. Uber. 667 pp. Interscience Publishers, Inc., New York, 1950. \$9.50.

**ELEMENTS OF ORE DRESSING.** By Arthur F. Taggart. 595 pp. John Wiley and Sons, Inc., 1951. \$10.00.

**TRANSFORMER ENGINEERING. A Treatise on the Theory, Operation, and Application of Transformers (Second Edition).** By the late L. F. Blume, A. Boyajian, G. Camilli, T. C. Lennox, S. Minnici, V. M. Montsinger. 500 pp. John Wiley and Sons, Inc., New York, 1951. \$7.50.

**PROGRESS IN NUCLEAR PHYSICS. Volume I.** By O. R. Frisch. 224 pp. Academic Press, Inc., New York, 1950. \$6.80.

**ELECTROPHYSIOLOGICAL TECHNIQUE.** By C. J. Dickinson. 141 pp. Electronic Engineering, London, W.C.2, England, 1950. 12/6.

**QUANTUM MECHANICS.** By Alfred Landé. 307 pp. Pitman Publishing Corporation, New York, 1951. \$5.50.

**BORDERLANDS OF SCIENCE.** By Alfred Still. 424 pp. Philosophical Library, New York, 1950. \$3.75.

**THEORY OF ELECTRONS.** By L. Rosenfeld. 119 pp. North-Holland Publishing Company, Amsterdam, Holland; Interscience Publishers Inc., New York, 1951. \$2.25.

**THE RISE OF SCIENTIFIC PHILOSOPHY.** By Hans Reichenbach. 333 pp. University of California Press, Berkeley and Los Angeles, 1951. \$3.75.

**SEMI-CONDUCTORS.** By D. A. Wright. 130 pp. John Wiley and Sons, Inc., New York, 1951. \$1.75.

**SCIENCE NEWS 18.** Edited by J. L. Crammer. 143 pp. Penguin Books, Inc., Baltimore, Maryland, 1951. \$0.35.

**METHODS OF OPERATIONS RESEARCH. (First Edition Revised).** By Philip M. Morse and George E. Kimball. 158 pp. The Technology Press of Massachusetts Institute of Technology and John Wiley and Sons, Inc., New York, 1951. \$4.00.

**THE PRINCIPLES OF CLOUD-CHAMBER TECHNIQUE.** By J. G. Wilson. 131 pp. Cambridge University Press, New York, 1951. \$2.75.

**INTRODUCTION TO SERVOMECHANISMS.** By A. Porter. 154 pp. John Wiley and Sons, Inc., New York, 1951. \$1.75.

**AN INTRODUCTION TO THE SCIENCE OF PHOTOGRAPHY.** By Katherine Chamberlain. 292 pp. The Macmillan Company, New York, 1951. \$6.50.

**WORKBOOK FOR WEATHER FORECASTING.** By E. S. Pulk and E. A. Murphy. 66 pp. plus map series kit. Prentice-Hall, Inc., New York, 1951. \$3.75.

**GRUNDZÜGE DER ELEKTROAKUSTIK.** By F. A. Fischer. 162 pp. Fachverlag Schiele und Schön, Berlin, SW 29, Germany, 1950. DM-West 14.00.

**JOSIAH WILLARD GIBBS. The History of a Great Mind.** By Lynde Phelps Wheeler. 264 pp. Yale University Press, New Haven, Connecticut, 1951. \$4.00.



## ENGINEERING EDUCATION

### PHYSICS TEACHERS MEET AT MICHIGAN STATE

A joint meeting of the American Association of Physics Teachers and the American Society for Engineering Education was held June 26-28, at Michigan State College, East Lansing, Michigan. Eighty-eight physicists from fifteen states and Canada registered for the meeting. Interspersed with several general sessions in which were discussed the larger problems of engineering education and technical manpower were five joint sessions of the Association and the Physics Division of ASEE. These latter conferences were devoted to such specific matters as the teaching of fluid dynamics, ultrasonics, and the realization of nuclear power.

Headquarters for the meeting were in Shaw Hall, a new dormitory which accommodates 1510 students during the academic year. Phillips and Mason Halls were also used as residences for the visitors. A total of 1796 persons registered for the meetings of the two societies and of the American Mathematical Association, which also met with the ASEE. The scene of most of the physics sessions was the Physics Lecture Hall in the spacious Physics-Mathematics Building completed in 1949.

Opening the program on Tuesday morning, June 26th, was a general session in Fairchild Theater sponsored by the Engineering College Research Council. G. A. Rossetol, vice president of ASEE, presided at this conference. The nation's research and development balance sheet was evaluated by E. A. Walker, Research and Development Board. A. F. Spilhaus, University of Minnesota, described the national potential in research and development by the educational institutions. Developments in the foundation of the National Science Foundation were described by board member, A. A. Potter.

On Tuesday afternoon a symposium on the teaching of fluid dynamics brought forth some interesting aspects of this frequently neglected topic in physics education. The symposium was sponsored by the Division of Fluid Dynamics of the American Physical Society. R. J. Seeger, Naval Ordnance Laboratory, opened the program with a discussion of what might be taught on this subject in a beginning physics course. Wayland C. Griffiths, Princeton University, explained the shock tube and its function. Several novel demonstrations were performed by R. M. Sutton, Haverford College, to illustrate his talk on the teaching of fluid dynamics. Egon A. Hiedemann, Michigan State College, presided at the afternoon session, and exhibited in another room of the Physics-Mathematics Building several devices

which he had developed to demonstrate fluid dynamics principles.

At the close of the afternoon session two films in the McGraw-Hill Text-Film Series were shown. These 16-mm sound motion pictures on "Uniform Circular Motion" and "Gasoline Engine, Otto Cycle" were produced in cooperation with the Visual Aids Committee of the AAPT. Mark W. Zemansky, committee chairman, spoke briefly in introduction to the films. John J. Heilemann, Ursinus College, exhibited four film loops developed by himself to show repetitive phenomena. These loops when run through a silent projector show the phenomenon as often as desired, making detailed study and repeated observation possible.

An evening session on Tuesday was held in the Electrical Engineering Auditorium. C. E. Bennett, council representative of the Physics Division of ASEE, presided at this session, which was opened by an address by Marsh White, The Pennsylvania State College, on the education, employment, and earnings of physicists. Edward R. Bascom, Wayne University, provided a television demonstration lecture utilizing Michigan State College's extensive television facilities. In the one auditorium visitors were enabled to watch both the performance before the cameras and the final image upon the screen. An enlightening comparison of what the television screen can show against what the student sitting halfway back in the auditorium can see was made possible in the demonstration. The director of Michigan State College's Television Program, Armand L. Hunter, spoke upon the operation of the WFIL-TV University of the Air, in which he directed a very extensive effort by a number of universities to bring their facilities and atmosphere to the Philadelphia television audience. This effort proved extremely popular: a surprising result of this experience was the excellent public acceptance of a series of programs on nuclear physics.

On Wednesday morning a general session in Fairchild Theater was devoted to engineering education. President John A. Hannah, Michigan State College, described the theory and successes of the basic college system at his institution. F. M. Dawson, president of ASEE, spoke upon "Engineering Education, A Bridge between Ignorance and Understanding." The Committee on Improvement of Teaching of the ASEE presented a panel discussion, in which L. E. Grinter, H. P. Hammond, A. P. Colburn, and J. F. Calvert participated. H. H. Armsby, U. S. Office of Education, presided at the general session.

On Wednesday afternoon the meeting was returned to the Physics Lecture Hall, where Thomas H. Osgood, Michigan State College, presided over a symposium on ultrasonics. E. A. Hiedemann, Michigan State College, described how ultrasonic fields are made visible. The application of ultrasonic pulse techniques in research and testing was illustrated by Julian Frederick, University of Michigan. Oskar Mattiat, Brush Development Company, spoke upon power measurements in ultrasonics, and presented his company's film on "Ultrasonic Effects."

A dinner for physicists, wives, and friends was held

in the evening at the Michigan State College Union. The speaker at the dinner was T. A. Boyd, vice president of General Motors Research Laboratory. His topic, "Solomon's House," emphasized the terrific impact of science and technology upon the lives of everyone.

Thirteen contributed papers occupied the time and attention of the visiting physicists on Thursday morning. R. F. Paton, Secretary of the Association, presided at this session and put down with firm hand any inclination which the speakers might have had to continue beyond their allotted time. A variety of subjects and ideas were presented at this session; among the unusual items offered were an experimental derivation of the Helmholtz dissonance using modern electrical apparatus by Newton B. Gaines, Texas Christian University, and a model to demonstrate nuclear and paramagnetic resonance by E. F. Carr, Michigan State College.

Members of the staff of Oak Ridge National Laboratory closed the program on Thursday afternoon with a symposium on the problems associated with the realization of nuclear power. G. P. Brewington, Lawrence Institute of Technology, was the presiding officer of the session. John H. Frye, Jr., described some metallurgical problems associated with the reactors. Chemical research problems in the development of reactors were outlined by J. A. Swartout, assistant research director. Problems of heat transfer by liquid metals were treated by Richard N. Lyon, of the Reactor Technology Division. Numerous applications of elementary physical principles were cited by this speaker in connection with matters of heat conduction, electromagnetic pumping, and other phases of the heat transmission problem.

B. H. Dickinson  
*Michigan State College*

## CANADIAN PHYSICISTS MEET

SIXTH ANNUAL CONGRESS HELD IN MONTREAL

The sixth annual congress of the Canadian Association of Physicists was held at Montreal, Quebec, from May 31 to June 2 under the joint auspices of McGill University and the University of Montreal. There was a very good attendance; 180 registered for the congress and many visitors and guests attended one or more of the social and scientific functions. A number of special symposia featured the meeting, and the technical program included twenty-one contributed papers.

On the opening day, members of the Association were welcomed by Principal James of McGill University. They also had an opportunity to visit the physics laboratories of the University, including the Radiation Laboratory directed by J. S. Foster, where a variety of isotope and other research is in progress, the newly-opened Eaton Electronics Laboratory under Professor Woonton, and various researches in the Macdonald Physics Building.

At McGill University, possessing as it does the distinction of being the place where Rutherford did most of his early work on Radioactivity, and having at the