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AAPT Annual Meeting

Glenn Q. Lefler

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Meetings

AAPT Annual Meeting

The twenty-third meeting of the American Association of Physics Teachers was held at Columbia University and Barnard College on January 28, 29, and 30. The attendance at the meeting was large and there were many excellent papers, panel discussions, and demonstration experiments. Each session was filled with thought-provoking, informative, valuable reports which brought many worthwhile contributions and much lively discussion from the floor.

A panel discussion dealing with the problems of research and the college teacher was held on Thursday morning with Karl S. Van Dyke of Wesleyan University as chairman. Participating were Herbert E. Longenecker of the University of Pittsburgh, Theodore Soller of Amherst College, Walter C. Michels of Bryn Mawr College, and Charles H. Schauer of Research Corporation. It was emphasized that the college teacher should also have opportunity for and should do research. To encourage the college teacher to be constructive in his own field of interest, to make him a better teacher as a result of research, and to instill enthusiasm which may have been dulled after several years away from research were aims set forth by the panel members. The use of federal funds for such projects was stressed.

A panel discussion on Thursday afternoon, organized by a joint committee from AAPT and from the American Society of Engineering Education, was held on the topic of "The Responsibility of the Physics Teacher in Engineering Education". Dean L. E. Grinter of the University of Florida and president of ASEE gave the first report centering around the philosophy of the engineering college. He stated that the engineering college, which has its origins in physics, has looked upon physics as a field to supply the tools and as a guide to the work of the engineer. He pointed out that the engineering schools have gone too far in the direction of furnishing technical training and have retained too little in the basic fundamentals which lead to the total understanding of the theory and application in engineering problems. It is his belief that the science training for the engineer should include basic science from outside the engineering college, basic science from within the engineering college, and technical development within the engineering college.

Lloyd Smith, head of the department of physics and director of engineering physics at Cornell University, gave the second paper. He was introduced by chairman

Joseph H. Keenan, also of Cornell, as being well qualified to speak in this panel because of his long experience in both physics and engineering. Professor Smith stated that if schools want to turn out good technically qualified engineers and not salesmen they need a broader basic training program to prepare the students to analyze and to reach decisions on important technical engineering problems. The basic physics that the student understands has a great bearing on his future ability and he gets this during the first two or three years of his engineering program and very little in the last years of his technical training while in the engineering school. The physicist's approach to the problems and not so much the subject matter taught accounts for this ability and training in analysis. A redistribution of subject matter between mathematics, physics, and chemistry may be necessary but should be taught in their respective departments.

Professor Frank of MIT was the third speaker on the program and was followed by Professor Dodge of Norwich University, North Field, Vermont. These speakers expressed the same philosophy as that expressed by Professor Smith and emphasized the importance of including more basic courses in physics, mathematics, and chemistry in the general engineering program. It was pointed out that several of the outstanding schools of engineering across the country have already gone on engineering programs which require two to three years of physics and mathematics in the pre-engineering curriculum, while others are presently entering this type of program.

A round table discussion with V. E. Eaton as moderator was held on Friday morning. Harold K. Schilling of Pennsylvania State University urged that the Association members take time to re-think continually the policies and purposes of the Association and thus keep abreast of new and changing horizons. He dealt with the problems of testing and evaluating laboratory instruction in physics; with strengthening the preparation of teachers of physics in the secondary schools; with research and its relation to teaching. Thomas H. Osgood, AAPT journal editor, of Michigan State College, stressed the importance of making full use of the facilities of the *American Journal of Physics* in publishing review articles, publishing articles to provide help in laboratory and class room instruction and publishing professional information relating to government and industrial research. The morning session was concluded with a demonstration on color television, introduced by H. A. Boorse of Barnard College, and given by D. W. Epstein of the Radio Corporation of America. Mr. Epstein reviewed the theory and the technical problems involved in color television, and gave a very interesting television demonstration.

On Friday afternoon the AAPT and the American Physical Society met jointly for the address of the retiring president of the Physical Society, the presentation of the Oersted Medal for outstanding teaching of physics, and for the Richtmyer Memorial Lecture. The

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presiding officers were H. A. Bethe of Cornell University and P. E. Klopsteg of the NSF, the retiring president of AAPT. Professor Enrico Fermi of the University of Chicago, as the retiring president of the American Physical Society, addressed the group on the subject of "What Can We Expect to Learn From High Energy Accelerators?". Dr. Fermi stressed solid state physics and nuclear physics as the two fields that are now in the foreground, and discussed the physics of the elementary particle, including an outline of nuclear particles and how these particles are released or excited. He stated that the large volume of data that now exists in the field of nuclear physics will be collected together in order to try to answer the question of further release of energy from the nucleus. There is as yet no particle as such that can be called the elementary particle in the field of high-energy work. This lecture was filled with wit, fact, and prophecy.

Professor C. N. Wall of the University of Minnesota was the recipient of the Oersted Medal. Professor Wall addressed the group on "The Metaphysics of a Physics Teacher". He stated that it is the way in which the information is transmitted from the professor to the student that counts and that the zest for information must be instilled into the student. If there were nothing but just transmitting the information, then we would not have needed teachers since the invention of the printing press. Progress in physics depends mainly on the ability of the student to build up a supply of information and substrata and form the connections, through the use of logic, to basic laws and principles. Learning is a process of going from vague to definite ideas.

John A. Wheeler of Princeton University, who gave the Richtmyer Memorial Lecture on "Fields and Particles", stressed the three main types of fields in which the physicist works as the electrical field, the gravitational field, and the neutrino field, and stressed the necessity for basic training in the fundamental properties of these three areas of work.

During Saturday morning R. J. Stephenson of Wooster College and T. D. Phillips of Marietta College were presiding officers, while R. Ronald Palmer and James M. Bradford of Beloit College presided during the afternoon session. The morning was given over to ten-minute papers, which included one by S. C. Brown of MIT in which he explained the type of instruction given in the physics laboratories in England and compared this to laboratory procedures in the United States. Much more time is given to the laboratory type of instruction in England; however, little time is spent in training engineers and thus a greater amount of laboratory is needed in the physics program. J. W. Buchta then outlined the work shop given last year at the University of Minnesota. The work shop was divided into two sections, one for college physics teachers and one for high school physics teachers. Its success was so great that it is planned to repeat the program again this summer at the University of Minnesota.

B. C. Dees, program director for fellowships of the National Science Foundation staff, outlined the work of the fellowship committee of the NSF and answered questions concerning fellowship openings. On Saturday afternoon M. W. Zemansky of the City College of New York showed two recently developed films which have been prepared by the AAPT Visual Aids Committee; F. W. Parker of Lincoln Memorial University presented several demonstration puzzles based upon principles of physics; and Eric M. Rogers of Princeton University gave a dramatic presentation of a demonstration experiment in mechanics.

At the annual business meeting on Saturday morning, at which President Klopsteg introduced the president for 1954, M. W. White of Pennsylvania State University, the following report of officers was made: President-elect, R. Ronald Palmer; Treasurer, F. W. Sears; Member of Executive Committee to 1956, V. L. Bollman. The secretary of the Association is R. F. Paton. D. W. Bronk was elected to Honorary Membership in the AAPT and T. D. Cope, P. Kirkpatrick, C. J. Overbeck, and M. H. Trytten were voted Special Citations for outstanding service to the Association. Eric Rodgers of Alabama University has been nominated and elected to represent AAPT on the Governing Board of AIP, serving until 1957. Several proposals for action by the organization were discussed with appropriate resolutions and committee recommendations resulting.

The Association is keeping well abreast of its new horizons and growing responsibilities as evidenced by many of the reports and panel discussions referred to above, by plans projected by the officers of the Association and the Council members at their meeting on Thursday evening, and by the work laid out for the coming year by the resolutions and committee recommendations resulting from the annual business meeting.

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Eastern Illinois State College

Nuclear Engineering

The American Institute of Chemical Engineers has announced that an International Nuclear Engineering Congress will be held at the University of Michigan in Ann Arbor, June 20–25. More than one hundred papers and addresses will be given during the six-day meeting, twelve of which are from authors in Canada, England, Belgium, France, Norway, Italy, Spain, and India. The technical program, which was planned by the Nuclear Energy Committee of the Institute, consists of some ninety papers on the following seven subjects: materials of construction for reactors, reactor technology, research and educational reactors, reactor fuel refining and preparation, nuclear power reactors, processing of irradiated materials, and applications and uses of radioactive products. In addition, there will be symposia on education in the nuclear field and on the social and political impact of atomic energy. Additional information concerning the Congress can be obtained by writing to Professor Robert R. White, 2028 East Engineering Building, University of Michigan, Ann Arbor, Michigan.