

subjects. An understanding of the mathematical training which follows high-school instruction should suggest topics for emphasis to the teacher and lend greater authority to his teaching.

Thus the teachers knowledge of high-school mathematics will be extended to contiguous subjects in two dimensions, one might say horizontally and vertically. But there is a third dimension. Knowledge of mathematics is not mere possession of information, more or less systematized. The experience of mathematics as an activity, rather than as a collection of results, is essential to the understanding of mathematics. The characteristic activity of mathematics is problem-solving. Yet very few teachers have had *genuine* experience in problem-solving. It is in this connection that Stanford hopes to make a novel contribution to teacher training in mathematics.

Included in the General Electric Program will be a "Seminar on Problem-Solving," conducted by George Polya. Polya has written extensively on the philosophy and methodology of problem-solving, and his many ideas cannot be discussed here, even briefly. The following outline for the conduct of the seminar which he has written will be of interest, however.

"A plan for such a seminar should not be too rigid. It should have plenty of flexibility to take care of the many relevant points that cannot be assessed in advance: interest, knowledge, personality of the participants. Yet a broad outline can be proposed.

"Problems should be selected from fields with which the participants are already acquainted. The instructor starts with a problem which, for some reason or other, is impressive and uses its solution as a *pattern* for solving several similar problems. The participants, unobtrusively helped by the instructor, should have as great a share as possible in solving these problems in class discussion, and should, as far as feasible, disentangle the 'pattern' themselves.

"After several days' work, the class passes to another initial problem, then to subsequent similar problems, and abstracts another pattern. After two or three such experiences the question of 'very general' patterns is raised. Then the class is prepared for the discussion of such general aspects of problem-solving as generalization, specialization and analogy, the role of guesses, of induction, of plausible reasoning.

"When such questions have been fairly clearly resolved, the final question arises: How should the participants direct the solution of problems in their own classes and reveal the essential methodical ideas? At this stage one of the participants may assume the role of instructor, with the other participants continuing

the discussion after his presentation. Then another participant takes the place of the instructor, and so on."

The two courses and the seminar, with occasional lectures on special topics, constitute the academic portion of the program. Coordinate with this will be a program of field trips to university laboratories and General Electric facilities in the vicinity of the university. During these visits, scientific, engineering, and management personnel will present lectures on mathematical aspects of their activities. The information thus acquired about the role of mathematics in contemporary society and, in particular, in the future vocations of his students should provide the teacher with an important means for motivating the study of mathematics.

The principal criterion for the success of the program will be a simple one. If the enthusiasm of the participants is stimulated, then we may expect that it will eventually be transmitted to their students, and the main objective of the program will have been achieved.

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AAAS Theobald Smith Award

The Theobald Smith award of \$1000 and a bronze medal, which has been given yearly since 1937 (except for a lapse during the war years) by Eli Lilly and Company of Indianapolis, Ind., under the auspices of the AAAS, will be presented at the association's 124th meeting in Indianapolis, 26-31 Dec. Nominations are now being requested for the award. They may be made by fellows of the AAAS and should be sent to the secretary of the Section on Medical Sciences, Dr. Allan D. Bass, Department of Pharmacology, Vanderbilt University School of Medicine, Nashville 5, Tenn.

The prize is given for "demonstrated research in the field of the medical sciences, taking into consideration independence of thought and originality." Any investigator is eligible who was less than 35 years of age on 1 Jan. 1957 and who is a citizen of the United States. The research is not to be judged in comparison with the work of more mature and experienced investigators.

Nominations must be received *before 1 Sept.* The secretary requests that six copies of all data be submitted. The nomination should include a curriculum vitae, a statement summarizing the nominee's scientific contributions with an evaluation of their significance, and reprints of his or her more important publications. The vice president of Section N-Medical Sciences and four fellows will form the committee of award.

AEC Courses for Faculty

The U.S. Atomic Energy Commission has announced that it will sponsor summer institutes in nuclear energy technology for university faculty at five commission facilities in 1957. Approximately 150 faculty members will attend the sessions at Brookhaven, Argonne, and Oak Ridge National Laboratories, the Ames Laboratory, and the Hanford Plant. Each institute will be conducted by the staffs of commission contractors for a period of 2 months.

Basic courses in nuclear energy technology will be offered at Brookhaven. The curricula will include reactor physics, chemistry and chemical engineering, reactor materials and metallurgy, and reactor instrumentation and controls.

The courses offered at the other four installations will be of a more advanced and specialized nature. Each will require technical education comparable to that gained from participation in the institutes held last summer at the Brookhaven and Argonne laboratories, or the equivalent in work experience.

The AEC will provide cost-of-living stipends up to \$750 per faculty member (matching amount to be provided by each participant's academic institution) and will defray travel expenses. These funds will be administered by the American Society for Engineering Education. No tuition will be charged.

The ASEE will also cooperate with the commission in the selection of faculty to attend the institutes. Inquiries concerning enrollment may be addressed to: W. Leighton Collins, Executive Secretary, American Society for Engineering Education, University of Illinois, Urbana, Ill.

U.N. Radiation Committee

The United Nations Scientific Committee on the Effects of Atomic Radiation completed its third session in Geneva, Switzerland, on 18 Apr. A statement issued at the conclusion of the session follows:

"The General Assembly's Special Committee for the study of the effects of nuclear radiation on man and his environment completed its third session today. The meetings were held in private and much of the work was done in specialized subcommittees. Presiding was Prof. Zenon Bacq of Belgium, and Dr. E. A. Watkinson of Canada was vice-chairman.

"The two principal subjects discussed were the question of the genetic effects of radiation, and the committee's report to the General Assembly, which is to be submitted in July 1958. Also studied were measurements of radiation levels,