On page 81 of this volume, L. W. Cohen makes two observations. "First, the effective use of the computing machine depends on the development of appropriate mathematical methods. Second, the development of mathematical methods depends on the development of mathematicians."

The operators of various computing machines seem to be becoming more aware of these dependences, and Wayne University has tried to make information available in a series of summer programs. This book reports the second of these programs. It is divided into four parts with headings, *Manpower Requirements in the Computer Field*, *Educational Programs*, *Influence of Automatic Computers on Technical and General Education*, and *Cooperative Efforts for Training and Research*. In the first section an appraisal of manpower requirements in business and industry, in government agencies, and by computer manufacturers, is made by three contributors. Each of these contributors encourages educational institutions to increase their training programs or states his opinion that there will be a tremendous demand for university graduates trained in the sciences which pertain to the computing machine field.

In the second section of the book several contributors spell out generalities of educational programs. In the third part, there is considerably more detail in what various universities are doing in their training programs. The Massachusetts Institute of Technology lists Machine-aided Analysis, Digital Computer Coding and Logic, Numerical Analysis, Methods of Applied Mathematics, a second course in Numerical Analysis, Switching Circuits, Digital Computer Applications and Practice, Analog Computation, Electronic Computation Laboratory, Pulsed-data Systems, and Switching Circuits, as courses directly related to automatic computation, for example.

It would seem well for universities engaged in a training program relating to computing machines or contemplating such a program to look through this book to extract from the first part some ideas about the potential demand, from the second part some ideas about the general aims and content of the program, from the third part some ideas concerning appropriate courses, and from the fourth part some ideas concerning the possibility of getting help in supporting such a program.

It is unfortunately true that the universities will have a hard time finding suitable text material for these courses and capable instructors, for the demands reported in the book are consuming the time and the efforts of people who might otherwise be available to write texts and to instruct in this field.

C. B. T.

NOTES

Summary of Educational Opportunities in Electronic Computation

A tabulated summary of educational opportunities in electronic computation is being prepared by Professor H. H. Goode, Professor of Electrical Engineering, University of Michigan. This Electronic Computation Education Summary will be published in the *Transactions* of the Professional Group on Electronic Computers of The Institute of Radio Engineers.

It is expected that the list will be revised from time to time as conditions change. Professor Goode is anxious to make the list as nearly complete as possible, and institutions with analog or digital computation courses or facilities, including punched card facilities, either planned or in operation for educational purposes, should communication directly with Professor Goode.

Dr. E. W. Cannon Appointed Chief of the Applied Mathematics Division of The National Bureau of Standards

Dr. E. W. Cannon has been appointed Chief of the Applied Mathematics Division of the National Bureau of Standards, effective February 28, 1955.

He will direct the Bureau's basic mathematical research program which is directed principally toward better utilization of electronic computing machinery, and progress in numerical analysis, mathematical statistics, and mathematical physics. In addition, the Bureau's Applied Mathematics Division acts as a service laboratory to the Bureau and other Government agencies, particularly in the fields of numerical computation, statistics, and quality control.

Policy Committee for Mathematics NBS Technical Advisory Committee

In its report of October 15, 1953, the Ad Hoc Committee, composed of representatives of professional scientific and engineering societies and under the chairmanship of M. J. Kelly, appointed by Secretary Weeks to review the activities of the National Bureau of Standards, recommended the formation of a set of Technical Advisory Committees to advise the Director of the Bureau of Standards and his staff on matters which the committees and the staff of the Bureau consider of importance. In accordance with this report known as the Kelly report, the Policy Committee of the Mathematical Societies of America, which was represented on the original Kelly Committee, nominated members for a Technical Advisory Committee for the Applied Mathematics Division of the Bureau of Standards.

At present this committee consists of David Blackwell of Howard University, Edward U. Condon, consulting physicist, Mark Kac of Cornell University, Phillip M. Morse of Massachusetts Institute of Technology, Mina Rees of Hunter College (Chairman), and A. H. Taub of the University of Illinois.

In meetings held on October 23, 1954, and on February 3, 1955, the Advisory Committee reviewed the program of the four sections of the Applied Mathematics Division, namely the Numerical Analysis Section, the Computation Laboratory, the Statistical Engineering Laboratory, and the Mathematical Physics Section. It also discussed that part of the work of the Electronic Computer Section having a bearing on the work of the Applied Mathematics Division.

The needs for new computing equipment and methods for financing the acquisition of such equipment were discussed at both meetings. A survey is being made by the Applied Mathematics Division of the computational needs of the other divisions of the Bureau of Standards, with two purposes in mind: 1) the determination of some of the requirements that the new computing equipment

must have, and 2) to acquaint the various divisions of the Bureau of Standards with the potentialities of modern computing devices and techniques as research tools.

The Applied Mathematics Division in particular and the Bureau of Standards in general provide unique services to the scientific and technical community. In turn they need the interest and support of this community in facing their financial, personnel, and scientific problems.

The University of Wisconsin Conference
"The Computing Laboratory in the University"

The University of Wisconsin is holding a conference entitled "The Computing Laboratory in the University," for a two and one half day period beginning Wednesday morning, August 17, 1955. There will be a few addresses on the computing field in general, several short talks by the ablest users of computing equipment, and several panel discussions concerned with the role of computing in higher educational institutions. The meeting is planned so as to be of interest to administrators and educators in higher educational institutions and to those in government agencies and industries who are responsibly concerned with the employment of trained personnel. Inquiries concerning the conference may be addressed to the Director of the Numerical Analysis Laboratory, 206 North Hall, The University of Wisconsin, Madison 6, Wisconsin.