THE IMPACT OF COMPUTER DEVELOPMENT ON THE
TRAINING AND UTILIZATION OF ENGINEERS

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(Abstract)

Computer development, in the broad sense of automatic intelligence devices for military, business, and industrial applications may some day be the greatest single user of engineers and scientists. Even today, with this field in its infancy, the shortage of properly trained scientists and engineers is the bottleneck.

This talk points out the technical difficulty of the new field and the need for training engineers and scientists in new specialties in order to progress rapidly and efficiently in the development.

Ultimately, the universities must turn out a new kind of doctor whose studies include the physical sciences, with emphasis on electronics, a study of the human brain, nature's example of a thinking machine, methods and procedures in business and industry, and government and labor rules and regulations.

Industry must particularly avoid large programs until and unless capable technical experts can be assigned to the problem. The field is too difficult to be advanced by the average scientist and engineer.

The automatic intelligence field properly developed will pay off several times over in the manpower that it uses. For each top technical man assigned for a period of computer development today, the services of scores of people can be spared during an equivalent later period. From the standpoint of the nation's security, as well as to insure the most rapid technical advances, it is justifiable to assign a substantial part of the technical effort of this nation's scientific body to computer development. This is a way to increase the nation's brainpower.