a necessary and well-established condition of America's share in the equipment of our forces. Surely it is clear that the greatest gain which can come to us, and to the world, from a war in which so much has been and must yet be sacrificed, is this closer and more conscious unity between peoples who have always been bound together, not merely because they speak the same language and share so much of history and tradition, but because their ideals and their outlook on life are, in very truth, essentially identical. To see in the promotion of such unity the best hope for the future, to work for it in every way and to guard it from the weakening effects of sectional aims and factitious differences, seems to be the best acknowledgment that the medical and scientific men of Britain can at present make to the American colleagues who, with a noble and simple generosity, are showing their desire to be identified with our cause.

THE INSTITUTE OF TECHNOLOGY OF NORTHWESTERN UNIVERSITY

IT is expected that the new building of the Institute of Technology of Northwestern University, erected at a cost of $6,735,000, which was made possible by a grant from the Walter P. Murphy Foundation, will be opened in the autumn. The institute is conducted on the cooperative plan, under which students alternate work in industry with study in the classroom on a quarterly basis. The first class entered in the autumn of 1939.

In the new building there is an air-distribution room, where the mercury will reach zero, designed so that smaller rooms may be constructed within, thus permitting control of external temperature. This room will test for air leakages, insulation defects and strain upon building materials.

The cold room for civil engineering, to which specimens of cement, concrete, steel and building materials will be brought for analysis, is a heavily insulated 6 by 7 foot laboratory, in which quick changes in temperature will subject materials to the most rigorous of tests.

A low temperature research room is being built for the department of mechanical engineering. In a compartment large enough to house an automobile, the temperature may be driven to 75 degrees below zero. Tests will be conducted under these conditions of moving engine parts. The room is insulated with twelve inches of cork. It is tile covered and separated by an air space from the ground beneath. The latter permits the floor to expand or contract as the temperature varies.

Special research in low temperatures is planned for the cold room of the department of physics, where temperatures of 20 degrees below can be produced. In addition, chemistry will have two "variable temperature compartments," which will reach 4 degrees below. These rooms will serve the purpose of storing organic samples which need to be kept frozen.

Besides the so-called "cold rooms," there will be thirty-two controlled temperature rooms, cooled by a seventy-five horse-power air conditioning machine in the basement. These will be used for a variety of experiments calling for specific temperatures.

Approximately $1,000,000 worth of new equipment is now being installed. This includes apparatus for producing lightning and rain to test insulation and electrical equipment, "bomb rooms" with 12-inch walls to guard against explosions from experimentation, an artificial river to test boat models and vibrationless rooms which float in space.

THE NATIONAL FOUNDATION FOR INFANTILE PARALYSIS

THE distribution by the National Foundation for Infantile Paralysis of grants amounting to $195,030 with which to carry on its battle to conquer infantile paralysis has been announced by Basil O'Connor, New York, president of the foundation.

These grants include:

A grant of $40,000 to the newly organized School of Public Health at the University of Michigan, which continues aid given to the school to create facilities for the study of virus diseases and to train virologists, with particular emphasis on infantile paralysis; also a grant of $7,400 has been made to the department of pediatrics of the university for the purpose of investigating the various forms of treating experimental infantile paralysis by the use of biologic and chemical agents.

A grant of $4,250 has been made to the Medical School of the University of California, San Francisco, to continue a study involving precise analysis of the movements of the various joints of the body, a project of particular importance in the treatment and prevention of after-effects of the disease.

A study aimed at determining the disposition of the infantile paralysis virus neutralizing antibodies among residents of an urban community, under what circumstances and at what rate persons develop such antibodies and the correlation of these data with the occurrence of infantile paralysis will be made under a grant of $9,300 to the School of Medicine of the Johns Hopkins University.

Two grants amounting to $6,300 to the Children's Hospital, Boston, will make possible the continuation of a study aimed at determining the effects of infantile paralysis on the growth of lower extremities. A study of the gastrointestinal tract as the portal of entry of the virus in paralysis will be made under a grant of $3,000 to the Boston City Hospital. Under a grant of $9,200, the Strong Memorial Hospital, at the University of Rochester, will continue studies to determine the functional indices in normal and abnormal locomotion. The University Hospital of the State University of Iowa, under a grant of $7,100 will continue an evaluation of treatment in the

return of muscle function and the prevention of deformity in acute and subacute infantile paralysis. Two grants amounting to $7,930 to Michael Reese Hospital, Chicago, will permit a continuation of previous studies in various aspects of the treatment of infantile paralysis and some aspects of the after-effects of the disease.

Grants amounting to $23,400 have been made to the National Organization for Public Health Nursing, New York, one of them to continue a previous grant to encourage nurses with desirable qualities to prepare themselves for the field of orthopedic public health nursing; another will continue aid to provide seven scholarships in orthopedic nursing care. A grant of $8,500, made to the National League of Nursing Education, New York, will provide instruction of nurses whose main interests are the care of orthopedic patients in institutions.

Other grants include $5,600 to the University of Minnesota; $4,980 to the department of bacteriology and parasitology of the University of Chicago; $5,000 to the department of bacteriology of the University of Southern California; $13,900 to the Bureau of Laboratories of the Michigan Department of Health; $5,300 to the City Hospital at Cleveland, and $12,000 to the New York State Department of Health. Smaller grants are made to various institutions.

SURVEY OF INDUSTRIAL RESEARCH

A COMPREHENSIVE report by the National Research Council on "Industrial Research" has been transmitted to Congress by the National Resources Planning Board. The document is one of a series on Research Resources being prepared by the National Resources Planning Board with the assistance of scientific councils and committees.

The survey was conducted by members of the National Research Council as operating agency of the National Academy of Sciences, with funds provided by the National Resources Planning Board. A committee of the council responsible for the survey, with F. W. Willard, president of the Nassau Smelting and Refining Company, as chairman, was composed of industrial executives, research directors and representatives of universities active in industrial research. The immediate direction of the survey was placed by the council in the hands of Raymond Stevens, vice-president of Arthur D. Little, Inc., of Cambridge, Massachusetts. With him were associated Dexter North, of Washington, D. C., and Dr. Caryl P. Haskins, president of the Haskins Laboratories in Schenectady, as assistant directors of the survey. Representatives of the interests of industrial laboratories, universities and special research institutions prepared sections of the report.

It is pointed out that the continuous and increasing application of science by industry is "contributing most significantly to the high standard of American living." American industry employs more than 70,000 workers in over 2,200 laboratories at an estimated annual cost of $300,000,000. Industrial research is generally accepted "both by informed labor and by informed management as a desirable and constructive force." "Organized labor is officially on record in favor of research and the annual reports of many of the most successful corporations have stressed the relation of research to earning power."

Among the findings set forth by the committee are the following:

> Industrial research is possible for all industrial units, small and large. The distribution of research in industry seems to follow no definite rule but to depend rather upon management policy. It is apparent that research is most active in companies utilizing technically trained men in design, production or sales activity.
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> Industrial research acts as a protection against unfavorable changes taking place both within and without an industry. Industry looks to the universities for trained technical men, and for principal advances on the frontiers of science. However, it is of interest that advances are not infrequently made on these frontiers in the course of research projects originally designed to achieve immediate commercial objectives.
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> The United States is now virtually independent of foreign sources for adequate apparatus and facilities for laboratory research.

It is recommended that leaders in several industries take steps toward initiating research programs where they do not now exist. There are wide variations between amounts spent in various industries, the chemical industry leading in the percentage of income devoted to research.

One portion of the report deals with the extent to which the recognized disciplines of science—physics, chemistry, mathematics, metallurgy, the several fields of engineering, biology and borderline fields—are applied in different industries.

It is pointed out that:

> In several branches of pure and applied science, abstracts of the technical literature are supported by scientific societies. Such support is becoming increasingly burdensome and increasingly inadequate in the face of the enormous and rapidly expanding amount of technical matter being published. An excellent means of Government contribution to industry would be proper provision for systematic and complete publication of abstracts of scientific and technical literature.
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> Extension of research means increasing dependence upon adequate and correct standards of reference. Establishment of standards requires most exacting and long-continued laboratory work, a high caliber of technical personnel, and, frequently, expensive facilities. There is need for much more research on standards of measure-