SCIENCE

Vol. 94 FRIDAY, DECEMBER 19, 1941 No. 2451

Science and National Defense: Dr. Vannevar Bush 571

Atmospheric-Electric Disturbances Accompanying the Bright Auroras of March 25, 1940, and September 18, 1941: Dr. Harlan T. Stetson 574

Obituary:
Walter Mathew Dunagan: Dr. Herbert J. Gilkey 578

Scientific Notes and News 581

Discussion:

Quotations:
A Metonic Span in the Work of the Carnegie Corporation; Progress at the Massachusetts Institute of Technology 586

Scientific Books:
Franklin's Experiments: Professor W. F. Magie 588

Special Articles:
The Extraction of Biotin from Tissues: Roy C. Thompson, Robert E. Eakin and Professor Roger J. Williams. Flies as Carriers of Poliomyelitis Virus in Urban Epidemics: Dr. Albert B. Sabin and Dr. Robert Ward 589

Scientific Apparatus and Laboratory Methods:
The Use of Mercury in Contact with Ammonia: Professor Richard G. Roberts. A Technique for the Electron Microscopic Examination of Encapsulated Bacteria: Evelyn A. Kregel and Others 591

Science News

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. McKeen Cattell and published every Friday by

THE SCIENCE PRESS
Lancaster, Pa. Garrison, N. Y.

New York City: Grand Central Terminal

Annual Subscription, $6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary in the Smithsonian Institution Building, Washington, D. C.

SCIENCE AND NATIONAL DEFENSE

By Dr. Vannevar Bush
President of the Carnegie Institution of Washington; Director of the Office of Scientific Research and Development, Washington, D. C.

In this discussion of the present position of science and research in National Defense I will confine myself to two points. The first concerns the form of organization under which the scientists of this country are working. The second, which is very brief, has to do with the spirit with which the task is undertaken. As to the work itself I can not, of course, be specific at the present time.

Details of the organization have been made known, but I think they are not well understood generally. In June, 1940, there was formed, by order of the Council of National Defense, a group called the National Defense Research Committee (NDRC), for the purpose of supplementing the work of the Army and Navy in the development of devices andinstrumentalities of war. This new organization was intended to function in an executive, not an advisory, capacity. The advisory function was being adequately cared for by the National Academy of Sciences, which has been in existence since the Civil War period, having been created by Act of Congress for the express purpose of advising the government on its scientific and technical problems. There was, however, need for a civilian group with executive powers to supplement the scientific and technical work of the Army and Navy, for,