

"One of the most important factors both in defense and in offensive action is protection against injury and disease. Not only are effective medical and surgical measures valuable in relieving suffering and in enabling the wounded to return to duty in a minimum length of time, but every hour that we allow illness to steal from our laborers is a proportional loss in vital materials. Although considerable progress has recently been made in medicine, additional research, especially in the new techniques of chemotherapy, will probably play an important role both in the war itself and in the post-war reconstruction."—From the essay of Marina Prajmovsky.

GENERAL SCIENCE

Scientists Fight the War, Says Westinghouse Head

By A. W. ROBERTSON

Chairman of the Board, Westinghouse Electric and Manufacturing Company

Excerpts from address made at the First Annual Science Talent Search Dinner.

WE THINK of war as being fought with tanks, bombers, aircraft and battleships. But in another sense it is being fought in the scientific laboratories of the country.

Scientists are more interested in war than most citizens. Science thrives best in a peaceful society of free men. Our brothers and fathers are fighting this war to preserve scientific activities as well as to save our lives, our property and honor.

America is about the last country in which a meeting of young science students could be held; either fear or governmental orders would prevent such meetings elsewhere.

In a sense, this war is fought by scientists. Men of science invented and perfected every weapon of both aggressor and defender. It is developing into a war of the scientific specialist—the odds favor the side with the best scientists. It might be thought that science debased itself by thus becoming the handmaid of war. But the fact is, we either win the war or scientific activities will suffer a major eclipse.

Science News Letter, July 25, 1942

MILITARY SCIENCE

Radio Detectors, New Engines, Product of Navy's Research

Director of Naval Research Laboratory Tells Search Dinner of Achievements of Science in Fighting War

By Rear Admiral H. G. Bowen

Director, U. S. Naval Research Laboratory.

Address at the First Annual Science Talent Search Dinner

AT THE time of the last war the research laboratories which existed in this country were relatively few and small. The Navy Department was assisted by the Naval Consulting Board of which Thomas A. Edison was the Chairman. This Board mainly handled inventions, and its report is a very interesting document to read today because it reveals very clearly the confused state of mind in regard to research, engineering developments, engineering testing, and inventions. I am sorry to say that there has not been too much improvement since that time in the proper understanding of the concept embodied in these operations.

One of the most important results of the Naval Consulting Board in which the then Secretary of the Navy, the Honorable Josephus Daniels, concurred heartily, was its decision to establish a Naval Research Laboratory. The Laboratory was not established until 1921 due to the unwillingness to start another activity which could not possibly contribute to the war then in progress. A wise remark of the Naval Consulting Board was, "One of the great virtues of the Naval Research Laboratory is that there would be developed during peacetime a corps of technically trained men who would be familiar with Naval affairs and the present state of development of the arts used in warfare whenever war occurred. They would be able immediately to direct their attention and that of civilian assistants to the operation of war devices. Its technical personnel would be the nucleus for mobilization of scientists for war."

We thus see that in the period under discussion the various phases which must be undertaken before a new product can be launched were not clearly understood, that there was relatively little research

going on in this country, and that research did not play a large part in the war of 1917-18 as far as the United States was concerned. The research situation in Germany at this time was completely different. The Allies were very much impressed by the progress of organized research in Germany, and two of the Allies at least, the United States and Great Britain, subsequently profited by the German demonstration of the importance of research.

Research from 1918 to 1941

The development of commercial research in the United States and Great Britain naturally followed different lines due to certain intrinsic differences which exist in the two countries. In this country we have a tremendous domestic consumption which not only warrants but supports mass production. One of the many by-products of mass production is the commercial research laboratory. The rise of the great commercial laboratories since the last war has been truly phenomenal and they have played a tremendous influence in the scientific, the commercial, and the economic field. The commercial research laboratory probably represents the first time in the history of civilization that any art has been self-supporting. The great progress in the United States in engineering has been due to its commercial research laboratories. The commercial research laboratories and industry together have been responsible for placing more men at work than any other influence or agent except the National Government.

Great Britain with a much smaller population and therefore a much smaller domestic market has never approximated the United States in the full utilization of mass production. Research there has been more often associated with manufacturers associations and Government-aided activities.

During the same period, on July 2, 1923, the Naval Research Laboratory was formally opened. In the words of Congress: "for laboratory (*Turn to page 60*)