

GENERAL SCIENCE

# Science Is Mobilized for Defense of the Nation

## Committees Organized to Coordinate and Initiate Research; Progress Made Toward Preventing Shortages

**A**MERICAN science turned its efforts during 1940 to defense preparations. Thousands of scientists began work on research tasks intended to aid the armed forces. In some cases fundamental research programs were laid aside to allow work on problems of military importance.

In cooperation with Army and Navy, defense committees of scientists were organized, among them the National Defense Research Committee, medical committees under the National Research Council and the National Inventors Council.

The National Roster of Scientific and Specialized Personnel, a giant directory of America's technical manpower, was begun.

Speeding of America's defense preparations began after Hitler's westward march in May. As industry rushed to provide more airplanes, munitions and supplies for both U. S. troops and anti-totalitarian military forces, scientists set their brains to devising new weapons and protection against new and old modes of warfare.

Secrecy enveloped these military researches. The traditional announcement of research results to the whole world was foregone in the case of defense research because of the danger of giving information to possible enemies.

The smaller nations of Europe, either invaded or surrounded by the military conquests of the dictators, had their intellectual development blighted by the aggression upon them. France became a conquered country, with many scientists in exile. British scientists struggled on, aiding in the war and seeing their great institutions disorganized and in some cases wrecked by Nazi bombs.

The exchange of scientific information between nations in many cases dwindled to a trickle. Interrupted transport and censorship delayed communication of scientific news as well as other sorts.

In the western hemisphere, the scientific relations between the nations of the two Americas were bettered by the holding of the Eighth American Scientific

Congress in Washington. Further collaboration between the American republics in cultural pursuits is taking place.

While the war became more violent and wide-spread, there was thinking and planning as to what can be done to reorganize the world when peace is possible. Scientists played a part in these efforts.

An important by-product of the war and defense efforts is the application of the newer knowledge of nutrition to everyday living. Scientists have shown the need of various hitherto unrecognized food factors. But the introduction of these into the daily diet is another matter.

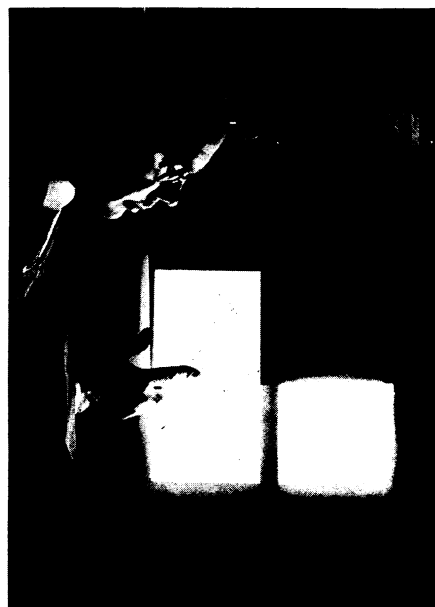
England has made compulsory the addition of thiamin or vitamin B<sub>1</sub> to white flour for bread. Thiamin has become recognized as the morale vitamin, that improves health, physical vigor and mental alertness. In the United States a new kind of flour with this vitamin added will probably be used in Army rations and made available for use by the general population.

The importance of the B vitamins to health won added recognition. Pantothenic acid, one of the B complex, was shown to be necessary to human nutrition and it was synthesized. Riboflavin, another one of the B vitamins, was shown to be important to human health. These, too, may soon be added to foods in order that they may be widely available, just as thiamin will reinforce flour used in bread.

A shortage of scientific and technical orders began to develop as the American defense program got underway. Engineering schools inaugurated short courses to give intensive training. Some branches of industry searched for engineers and research workers with experience. Some training schools for mechanics went on almost a 24-hour schedule, like the factories they are to supply.

The war interfered with the 1940 award of the Nobel prizes. Sweden, hemmed in by Nazi conquests, decided to postpone the science awards until later.

As America's first peace-time drafted army was being organized, scientists and



### TO AVOID BLACKOUT

*Harold A. Breeding, General Electric engineer, is demonstrating how a blue glass will let through incandescent light, or daylight, but will exclude sodium light. The sodium light, he believes, may be used in combination with the blue glass in factories in blackout areas when it is necessary to operate at night. Special glass is not necessary, for the blue is applied by spraying on a clear varnish mixed with a commercial dye.*

educators were doing their best to retain trained research workers, teachers and students in their normal roles so that research may go on and the supply of technically trained men and women will not be interrupted. There was hope that the mistakes of other nations, which put their essential specialized personnel into uniform, were to be avoided.

Progress was made toward making America independent of essential raw materials from overseas. Synthetic rubber factories, making several kinds of rubbers, were begun as insurance against curtailment of rubber from the Far East. A possible shortage of tin was foreseen and steps were taken to use the Bolivian ores which are closer to the United States than the usual Malaysian sources. Manganese deposits in Cuba and Montana were exploited to supply much of this necessary steel ingredient used in the United States.

Science enters into 1941 under full draft, with many more tasks to accomplish, determined to make the nation safe against outside aggression and preserve democracy and freedom within.

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