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GENERAL SCIENCE

### **Defend German Scientists**

➤ GERMAN science leaders protected political suspects, including some of the few non-Aryans in Germany during World War II, by giving them work considered of "military importance," a famous German scientist asserted in defending his colleagues against charges of being "armorers of the Nazis."

Dr. Max von Laue, co-director of the Max Planck Institute and a leading anti-Nazi German scientist, described the "often fictitious" compliance of German science leaders with military demands in a communication to the Bulletin of the Atomic Scientists (April), published in Chicago. He objected to criticism of German scientists' role in the war, made by Dr. Philip Morrison, Cornell University physicist. Dr. Morrison had declared that German scientists, with a few exceptions including Dr. von Laue, had worked for the military in the war.

Pointing out that the directors of large German scientific institutions were forced to comply with Hitler's orders, Dr. von Laue told how some young specialists were protected from mobilization by larger research institutes.

"Sometimes too the possibility arose of protecting political suspects from con-

centration camps or worse, by assigning them research work of more or less 'military importance,' " he reported.

Some of these cases included non-Aryan Germans, the scientist declared.

Dr. von Laue, who discovered X-ray diffraction by crystals, was an outspoken critic of Hitler and maintained his friendship with Einstein and other German exiles at a time when this was considered treason.

Much work by German scientists during the war was not of a military nature, he emphasized, pointing out that many unpublished manuscripts of German wartime work in physics are concerned with scientific developments unrelated to the war.

In commenting on Dr. von Laue's criticism, Dr. Morrison replied in the Bulletin that "many of the most able and distinguished men of German science . . . worked for the advantage of the Nazi state."

Dr. Eugene Rabinowitch, University of Illinois scientist and co-editor of the Bulletin, commenting editorially on the dispute, warned that discrimination against German scientists makes the job of preventing future wars more difficult.

Science News Letter, April 10, 1948

METALLURGY

## Strange Behavior of Metals

➤ VERY strange behaviors of metals and other substances near absolute zero temperature, approximately 460 degrees below the Fahrenheit zero, are described by Dr. S. C. Collins, of the Massachusetts Institute of Technology, in a recent issue of *Science* (April 2), official publication of the American Association for the Advancement of Science.

Electrical properties of metals at these low temperatures are discussed. When cooled to close to absolute zero they lose practically all resistance to electric currents. Dr. Collins also discusses a form of liquid helium that climbs up and over the sides of a glass flask holding the fluid.

More than a dozen laboratories in the United States are now actively engaged in researches which extend into the liquid helium range, he reveals. This is close to absolute zero. There were only two such laboratories prior to 1946, he said.

The initial interest in very low

temperatures was created chiefly by the desire to liquefy such gases as nitrogen, oxygen, hydrogen and helium. Helium, the last to yield, was reduced to a liquid state in 1908. It is the lighter-than-air, non-combustible gas used in American balloons, and employed also in medical work and as a shield in arc-welding.

The equipment used in some of the laboratories to obtain very low temperatures is a complicated machine called a Collins helium cryostat, designed by Dr. Collins. This makes it possible to obtain very low temperatures easier than could be obtained before. Helium is the working fluid, and 12 of these machines are now in use in the United States.

It has been known, since the discovery by Kamerlingh Onnes in 1911, that certain metals lose their electrical resistance when cooled to near absolute zero temperatures. Scientists say they then have superconductivity. A satisfactory complete theory of superconductivity has