

GENERAL SCIENCE

# Nobel Prize Awarded

Two men and a woman are the winners in medicine for their researches which may pave the way to a possible conquest of diabetes.

► THE millions of diabetics throughout the world may well cheer the 1947 Nobel Prize award in medicine and physiology as they cheered the same award nearly a quarter of a century ago. Then (1923) it went to the discoverers of insulin, the diabetic's lifesaver. This year the award goes to two men and a woman whose fundamental researches will certainly do much to pave the way for a final conquest of diabetes, if that is ever made.

This year's Nobelists in medicine and physiology are Dr. Carl F. Cori and his wife, Dr. Gerty T. Cori, of Washington University School of Medicine, St. Louis, and Dr. Bernardo A. Houssay, of Buenos Aires.

The discovery of insulin, in 1922, brought life and health to diabetics. But, as any diabetic forced to take his insulin "shot" daily and sometimes oftener can tell you, the life-saving chemical is not a cure. And any biochemist can tell you that the discovery of insulin loosed a thousand questions to be solved.

Insulin is produced by islands of tissue in the pancreas. In diabetes, these islands stop producing the chemical. Without it a person dies. Give it to a dying diabetic and he is restored to life in a few hours. Why does it stop the drain of needed sugar from the body? How does it promote the burning of sugar in the muscles?

Solution to many questions about what happens in the body to sugar and starch eaten in food was found by the Coris. They discovered how sugar, stored in the liver as another chemical, glycogen, is converted back to sugar for transport in the blood to the muscles for reconversion there to glycogen. They also discovered that if the muscle fails to burn sugar completely the waste products are returned to the liver for conversion to glycogen.

The Coris' discovery of how insulin acts to promote burning of sugar was made following one of Dr. Houssay's discoveries. This was the relation between the pancreas and the pituitary gland. The

death from diabetes which usually occurs after the pancreas with its insulin-producing islands is removed can be prevented if at the same time this tiny gland in the head is removed. While Dr. Houssay went on to show further relationships between the various glands of the body, including the thyroid and adrenals as well as the pituitary and the pancreas, the Coris kept on with their studies of sugar utilization.

The key reaction in the burning of sugar in the body is not affected by insulin, but can be completely blocked by chemicals from the pituitary or adrenal glands. Insulin, however, lifts the blockade. This discovery of where and how insulin acts has given scientists a laboratory method for testing insulin substitutes. Its importance lies in the fact that an insulin substitute is badly needed, since increasing demands for insulin may some day outrun the supply.

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PHYSICS

## Navy Seeks New Design For Magnetic Compass

► THE Navy is seeking a new design for one of the oldest instruments used in navigation, the magnetic compass.

But the new compass, which scientists are working on at the Navy Material Laboratory at the New York Navy Shipyard, is a remote-reading magnetic compass which will accurately indicate directions despite heavy seas and the firing of modern guns.

During World War II, the Navy substituted remote-reading compasses for more conventional direct-reading instruments. A shortage of non-magnetic materials made it necessary to have a compass high on the mast of a ship, from which remote indicators could be read in the wheelhouse.

This system, which used aircraft compasses on the mast of the ship, was not entirely satisfactory as the roll and pitch of the ship frequently made for inaccurate readings.

Now the Navy is trying to develop a remote-reading compass which will serve effectively under the conditions of modern naval warfare. Two devices being used in tests of new compass designs are a 75-foot, non-magnetic mast and a "Scorsby," an instrument which tests vibrations under conditions of rotation and controls the earth's magnetic field in an area large enough for accurate testing.

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**NOBELISTS**—Dr. Carl F. Cori and his wife, Dr. Gerty T. Cori, of Washington University School of Medicine, St. Louis.