

PHYSIOLOGY-BIOCHEMISTRY

# Work on Nerve Chemistry Is Honored With Nobel Prize

## Discovery of Chemical Which Acts as Messenger From Nerve to Muscle Was Foundation for Honored Research

**T**HIS YEAR'S Nobel prize in medicine and physiology has been awarded jointly to Sir Henry Hallet Dale, director of the National Institute of Medical Research in Hampstead, London, and to Dr. Otto Loewi, professor of pharmacology at the University of Graz, Austria, for their discoveries related to the chemical transmission of nervous activity.

Prof. Loewi's work is declared fundamental and original. Much of it would have been impossible without Sir Henry Dale's work on the chemical called acetylcholine, which Sir Henry found to act as messenger between nerves and muscles. Prof. Loewi's research in turn stimulated Sir Henry's later researches on this chemical.

There is thus an intimate connection between the work of these two investi-

gators which justified a joint award. While their work is closely related, the two scientists have not collaborated directly.

The chemical and physiological phenomenon, the discovery of which won this high honor, occurs hundreds of times a second in the body of an active person. Every time a thought commands certain nerves in the body to move a muscle, there is an almost infinitesimal spurt of a chemical, called acetylcholine. This release of chemical acts as a chemical messenger, giving orders to the muscle from the nerve.

It is hard to imagine the small amount of this chemical that is needed to act as a chemical postman. And it is difficult to visualize the effect of the speed and complexity of the happening.

Sir Henry Dale on his most recent

visit to America in 1934 estimated that each outpouring spurt of acetylcholine consists of three million molecules, a very small quantity. To express this weight in grams, the scientific unit of weight that is one-thirtieth of an ounce, it is necessary to write fourteen naughts to the right of a decimal point before a figure is reached.

Acetylcholine is thus recognized as one of the most important substances in the living body. Its potential usefulness in medicine is foreseen.

Sir Henry Dale is well known in America and he has lectured before universities and scientific societies here. He is considered one of the leaders in British science. He is now 61.

Dr. Otto Loewi is a man in middle life and he is recognized in America as well as Europe for his researches on nervous function, particularly on the transmission of impulses in the vagus nerve, a cranial nerve exercising important control over heart, lungs, stomach and other vital organs. He has been in the United States several times, most recently in 1930.

*Science News Letter, November 7, 1936*

ARCHAEOLOGY

## Jaguar Altar in Red Latest Mexican Find

**A** BIG stone jaguar painted brightest red, with eyes of fine apple-green jade, and with large body-spots of jade as well, has been discovered in a ruined Mayan temple in Chichen Itza, ancient Indian capital of Yucatan.

On the flat of the creature's back, which was evidently used as an altar-table, lay a tell-tale souvenir left by the hand of the last priest officiating forgotten centuries ago. This was a big round turquoise mosaic plate on which had been put a precious jade-and-shell necklace with a jade figurine. As an offering to the gods, the whole was burned with copal gum, the tropic Indian incense of Mexico.

But archaeologists who came centuries late found the damage was not great. The mosaic design was left in place, and this has now been repaired with shellac. The whole relic has been encased in glass by Mexican government archaeologists, so that visitors may always see just how the ancient offering had been left.

The sanctuary of the jeweled jaguar is the back room of a temple that once stood on a flat-topped pyramid. The front room, dug out just last year, has a huge reclining human form carved from stone, brightly (Turn to page 301)



**WHERE MAYAS WORSHIPPED**

*Centuries ago original Americans, the Mayas, worshipped at this strange altar just discovered. Note the precious turquoise plate on the red jaguar's back. Eyes and spots are represented by inlaid apple-green jade.*