

Medical Philately (Medical Theme on Stamps)



Otto Loewi, Austria,
1973



World Neurochemistry
Congress, Venezuela, 1987



Honoring Nobel Prize winners (1970),
Euler, Katz and Axelrod, Sweden-1984.
Shows Nerve cell & sympathetic nerve
ending with release of norepinephrine and
reuptake

OTTO LOEWI & NEUROCHEMICAL PHENOMENA



Otto Loewi (1873 - 1961) studied medicine at the University of Strasbourg and obtained his medical degree in 1896. Thereafter he worked in London under Starling. In 1905, he went to Austria and held professorial positions at the University of Vienna and later, at the University of Graz.

His chief work was in connection with nerve action. Since Galvani's time, it was known that the nerve impulse was electrical in nature. Loewi, however, demonstrated that chemical phenomena were also involved. In 1921, working with nerves attached to frog's heart, he showed that chemical substances were set free, when the nerve was stimulated. The fluid containing the substance could be used to stimulate another heart directly, without nerve activity. It is said, that the idea for the experiment occurred to him at 3 a.m. on two successive nights. The first night, he wrote it down and went back to sleep. In the morning, he could not read what he had written. The second night, he went straight to the laboratory and got to work. By 5 a.m., he had established the point. Loewi called the substance he had discovered, *vagusstoff* (vagus material), because he had obtained it by stimulating vagus nerve. Dale soon showed the material to be acetylcholine and as a result, the two of them shared the 1936 Nobel Prize, for Medicine and Physiology.

Two years later, Hitler's Germany invaded and absorbed Austria. Loewi, who was Jewish, was placed under arrest. Fearing that the death was inevitable, he managed to persuade the guard to allow him to mail a post card to the scientific journal *Naturwissenschaften*, detailing some of his current work. Fortunately, death was avoided and he was allowed to leave the country, provided he turned over his Nobel Prize money to the Nazis.

He first went to England and later to America in 1940. There, he joined the faculty of New York University College of Medicine and became American citizen in 1946, and spent the rest of his life in his new home.

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