

# Alois Alzheimer—Alzheimer Disease

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In 1901 at the Frankfurt Asylum, Alois Alzheimer treated a 51-year-old woman who had progressive memory loss. Her mental condition deteriorated, and she died 5 years later (1906). At autopsy, Alzheimer noticed that the patient's cerebral cortex looked atrophied, with widening of the sulci. He also identified histopathologic changes, which would come to be known as the pathologic hallmarks of the degenerative condition that today bears Alzheimer's name: neurofibrillary tangles and neuritic plaques.

Alois Alzheimer was born in the small town of Marktbreit in Bavaria (Germany) on June 14, 1864. His father was a notary public and minor government official. After attending school at Aschaffenburg and Würzburg, Alzheimer studied medicine at the universities of Würzburg, Tübingen, and Berlin. In 1887, he received his medical degree from the University of Würzburg after defending his doctoral thesis on the wax-producing glands of the ear. This work was based on his research in the laboratory of noted Swiss physiologist and histologist Rudolf Albert von Kölliker (1817-1905), who spent much of his career in Germany.

After an internship, Alzheimer worked for 7 years as an assistant in the Städtische Irrenanstalt (city mental asylum) in Frankfurt-am-Main, where he began his work in psychiatry and neuropathology under the direction of the distinguished neurologist Franz Nissl (1860-1919). In 1895, Nissl moved to Heidelberg to join the noted German psychiatrist Emil Kraepelin (1856-1926). Alzheimer succeeded Nissl as director of the mental asylum in Frankfurt-am-Main and served in that role for 7 years, from 1895 to 1902.

At Frankfurt, Nissl and Alzheimer started to investigate the pathology of the nervous system, studying the normal and pathologic anatomy of the cerebral cortex. This resulted in their 6-volume *Histologic and Histopathologic*

*Studies of the Cerebral Cortex*, which was published serially between 1906 and 1918.

In 1902, Kraepelin left Heidelberg to become head of the University Psychiatric Clinic in Munich, where Alzheimer joined him in 1903. The Psychiatric Clinic opened in 1904, and Alzheimer was appointed privatdocent. In 1908, he became professor and director of the anatomical laboratory in the Psychiatric Clinic. Alzheimer worked in Munich until 1912. It was during his time in Munich that Alzheimer described the findings of the disorder that now bears his name. In 1910, Kraepelin introduced the name "Alzheimer's disease" to honor Alois Alzheimer.

In 1912, Alzheimer was appointed professor of psychiatry and neurology at the University of Breslau (now Wrocław) in Poland, a position that combined research and clinical practice. From 1910 to 1915, he was editor for psychiatry of the *Zeitschrift für die gesamte Neurologie und Psychiatrie*. On December 19, 1915, at the age of 51 years, Alois Alzheimer died of cardiac failure and uremia.

Most of Alzheimer's scientific contributions concerned neurologic subjects, including studies of acute alcoholic delirium, Westphal-Strümpell pseudosclerosis (Wilson disease), dementia praecox (schizophrenia), differential diagnosis of brain tumors, progressive paralysis of the young, epilepsy, luetic meningomyelitis and encephalitis (neurosyphilis), gliosis, Huntington disease, general paresis, and hysterical bulbar paralysis.

In addition to a form of senile dementia being named after him, a cell (giant astrocyte with prominent nucleus found in the brain in hepatolenticular degeneration and hepatic coma) and a stain (a methylene blue and eosin polychrome stain for detection Negri bodies) also bear his name. In 2008, the United States issued a stamp in Alzheimer's honor (Scott no. 4358).

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