Ralf Dahm
Alois Alzheimer and the beginnings of research into Alzheimer’s disease

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A century ago – on November 3, 1906 – a young doctor delivered a talk at the annual meeting of the South-West German psychiatrists. In this talk, he described the psychiatric symptoms and changed brain histology of his late patient, Auguste D. This moment marked the beginning of research into what was to become one of the most infamous afflictions, the disease that today bears his name: Alzheimer’s disease.

Alzheimer’s early years and medical studies

Aloysius (Alois) Alzheimer (Fig. 1) was born on June 14, 1864, to the royal notary Eduard Alzheimer and his second wife, Therese, in the small Bavarian town of Marktbreit. Early on in school, he showed a vivid interest in the natural sciences. His school leaving certificate remarked on his academic achievements: “This student shows outstanding knowledge of the Natural Sciences, which he has studied with particular predilection throughout his time at high school.” In the autumn of 1883, after having left school, Alzheimer followed this interest and began to study medicine at the University of Berlin, a hub for the medical and biological sciences at the time.

The late 19th century was an exciting time for neuroscience. Many of the fundamental concepts of our understanding of the brain were emerging. By the 1870s, the study of lesions or targeted stimulations of specific brain regions had led to the concept of cortical localization, and ever more mental faculties were localized to specific regions of the brain. In the 1880s, neurons were increasingly advocated as the elementary units of the nervous system (neuron doctrine) and their morphology was being elucidated. Dendrites and axons were named, and synapses were postulated to be points of contact between neurons (reviewed in Finger 1994; Shepherd 1991).

In Berlin, Alzheimer was introduced to novel approaches regarding the study of brain pathology as an important tool in psychiatric investigations. Scientists increasingly tried to find anatomical causes, particularly damage to the brain, to explain mental disorders. But despite the great opportunities Berlin offered to the young student, Alzheimer was deeply rooted in his South German homeland. After just one

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2 Detailed accounts of the life and achievements of Alois Alzheimer can be found in the biography by Konrad and Ulrike Maurer (translated by Neil Levi; Maurer et al. 2003) and a recent article by Manuel B. Graeber (Graeber 2006). Further information can be obtained from the obituary by Franz Nissl (Nissl 1916), Walther Spielmeyer’s posthumous appraisal of Alzheimer’s life and work (Spielmeyer 1916) and Emil Kraepelin’s memoirs (Kraepelin 1987).