

Frank Pillmann

Carl Wernicke (1848–1905)



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Carl Wernicke was born into modest circumstances. He studied medicine in Breslau, now Wrocław (Poland). In 1871, Wernicke entered the municipal “Allerheiligen” Hospital of Breslau where he served in the psychiatric department as assistant to Heinrich Neumann, extraordinary professor of Psychiatry at Breslau University. He was excited by the fascinating findings of the up-and-coming neurosciences; for example, the linking of disordered language to the third anterior gyrus by Paul Broca in 1865 and the discovery of the excitability of the cortex by Hitzig and Fritsch in 1870 [4]. Wernicke managed to obtain a leave of absence to visit Theodor Meynert in Vienna, who had just begun to establish his fame as the principal authority in neuropsychiatry.

Within a few months of returning to Breslau, Wernicke designed an extended theory of aphasia. He collected a number of supporting cases on the wards of the Allerheiligen Hospital and, in 1874, he published a monograph of 72 pages: “The Aphasia Symptom Complex” [7]. Virtually overnight, Wernicke assumed a leading role in aphasia research. The important point was not the identification of just another cerebral localisation. Rather, it was Wernicke’s general approach of explaining higher cognitive functions by the interaction of spatially distributed, but interconnected centres

[2]. The success of his book created an opportunity for Wernicke to join the department of psychiatry and nervous diseases of the Berlin Charité Hospital under Karl Westphal. In 1878, Wernicke’s academic career was severely disturbed as he entered into conflict with the hospital administration. He lost Westphal’s support and had to retreat to private neurological practice in the following years.

During this time, Wernicke’s productivity did not cease. He published a variety of neurological papers, including a description of the hemianopic pupillary response and wrote the well-received “Textbook of brain diseases” [8]. It was this textbook that contained the description of “Pseudoencephalitic haemorrhagica superior” based on the examination of 3 cases – later called Wernicke’s encephalopathy. He pioneered sterile ventricular puncture and external CSF drainage for the treatment of hydrocephalus [1] and, in 1882, he reported the first case of surgical treatment of a patient with a brain abscess [10].

When Neumann died, Wernicke succeeded him as Head of the Breslau Psychiatric Hospital and as Professor of Psychiatry in 1885. Soon, he set up a laboratory and began to fight for the funding of a neurological outpatient clinic, which was finally opened in 1889 [3]. The assistant in charge of the outpatient

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Dr. med. F. Pillmann (✉)
Universitätsklinik und Poliklinik
für Psychiatrie und Psychotherapie
Martin-Luther-Universität
Halle-Wittenberg
06097 Halle, Germany
Tel.: +49-345/557-4560
Fax. +49-345/557-3500
E-Mail:
frank.pillmann@medizin.uni-halle.de

clinic was Ludwig Mann. In 1889, Wernicke had characterised the typical posture and gait in cerebral hemiplegia in a short article [9], but he left it to Mann to publish an in-depth analysis of what is now known as the “Wernicke-Mann” type of hemiplegia in 1895 [5]. In the 1890s, Wernicke embarked on a project to design a photographic atlas of stained brain slices. For years, he and his assistants devoted a great deal of time and effort handling the immense technical problems of producing, staining and photographically reproducing whole-brain slices. In 1903, the last of three volumes was finally completed.

In Breslau (and later in Halle), Wernicke had many important pupils who later made their careers in neurology or psychiatry. The list includes Otfried Foerster, Karl Bonhoeffer, Hugo Liepmann, Karl Heilbronner and Karl Kleist. During these years, Wernicke became increasingly devoted to the concept of placing psychiatry on a neurobiological foundation. Towards this end he published a textbook, *Outline of Psychiatry*, in successive parts from 1894 to 1900.

In the handling of the political affairs of the clinic Wernicke was less fortunate. There were long-standing conflicts of interest between the municipal authorities and the royal university. Wernicke, in his harsh and uncompromising way,

continuously set the Breslau authorities at odds against him. In the course of this conflict, Wernicke first had to give up his position as director of the clinic and later he was denied the right to use patients for teaching purposes.

Relief came in 1904 when Wernicke was offered the chair of psychiatry and nervous diseases at Halle University. Within the subsequent 14 months, Wernicke initiated the use of brain puncture for the diagnosis and localisation of brain tumours and, thus, continued a neurosurgical tradition started by his predecessor Eduard Hitzig. He also recruited assistants for histological and pathophysiological studies and initiated psychopathological research [6]. Tragically, these activities came to an abrupt end when Wernicke had a severe accident on a bicycle trip into the forest of Thuringia. He died the next day on 15 June 1905 at the age of 58.

Driven by a fervent “need for causality” and with talents for both conceptualisation and observation, Wernicke was among the most outstanding and influential neuro-psychiatrists of the 19th Century. In addition to his numerous contributions to both clinical neurology and psychiatry, his network view of brain function (in some ways, before his time) foreshadowed today’s connectionist concepts.

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