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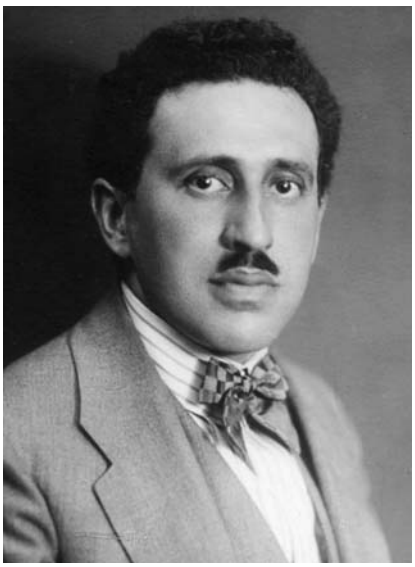
Josef Gerstmann (1887–1969)



Josef Gerstmann. Previously unpublished photo by Max Schneider, Vienna. Courtesy: Bildarchiv, Institut für Geschichte der Medizin, Medizinische Universität Wien, Austria

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Josef Gerstmann was born on Sunday, July 17, 1887 in Lemberg (49.8° N, 24.0° E), also known as Léopol or Leopolis, then capital of the Austrian Kingdom of Galicia and Lodomeria (later Lwów in Poland, today Lviv in the Ukraine). He studied medicine from 1906–1912 at the University of Vienna and then trained in neurology and psychiatry under Julius Wagner von Jauregg (1857–1940).

During World War I, he was a medical officer in charge of Reservespital, Innsbruck, treating wounded soldiers of the Austro-Hungarian army, for which he was decorated [1]. From 1918–1930 he worked with Wagner-Jauregg as assistant and associate physician, becoming Lecturer in neurology and psychiatry in 1921 and Professor in 1929. Following the death of Emil Redlich (1866–1930), Gerstmann became Director (1930–1938) of Maria-Theresien-Schlössel, a hospital for nervous and mental diseases. He lived at Kochgasse 5, Vienna VIII.

Gerstmann authored more than 100 papers. In 1918, he published a pioneering, often neglected, study on pure, unilateral tactile agnosia [1]; it involved a 34 year-old infantryman with a gunshot wound to the right postcentral area and lower parietal lobe and an inability to recognize objects by palpation with the left hand, despite preserved somatosensory function.

Beginning in 1924, Gerstmann published a series of studies on what has become known among neuropsychologists as the 'Gerstmann syndrome' (also 'angular gyrus syndrome' or 'Gerstmann-Badal syndrome' especially by French authors). It results from posterior parietal lesions in the dominant hemisphere, affecting the angular gyrus or subjacent white matter, and includes finger agnosia, right-left disorientation, agraphia, acalculia, and constructional apraxia [3, 4, 10].

The 'Gerstmann test' [5, 6] is a modification of the Romberg test: a tendency to fall, upon repeated flexing-stretching of the trunk with the eyes closed and with the feet positioned closely together, indicates cerebellar ataxia.

Gerstmann authored a monograph on the malaria treatment of progressive paralysis (*Die Malariabehandlung der progressiven Paralyse*, Springer, Vienna, 1925; revised, 1928). The preface was by his mentor Wagner-Jauregg, 1927 Nobel laureate in medicine 'for the discovery of the therapeutic value of malaria inoculation in the treatment of dementia paralytica.'

At the First International Neurological Congress in Berne, Gerstmann gave a presentation in the afternoon session of Thursday, September 3, 1931, chaired by Professor Lazar Minor of Moscow, on 'static-locomotor disturbances in

frontal lobe disorders, including the so-called frontal astasia and abasia, frontal hypokinesia and akinesia, and frontal lobe psychosis.'

In collaboration with neuropathologists Ernst Sträussler (1872–1959) and Ilya M. Scheinker (1902–1954), Gerstmann described in a family from lower Austria the progressive disease that today bears their names, manifesting with cerebellar ataxia, slurred speech, pyramidal tract signs, ophthalmoplegia, and features of dementia and parkinsonism. The new entity was presented at Vienna's Society for Psychiatry and Neurology on June 18, 1935 and published the following year [8].

Gerstmann also studied developmental cortical abnormalities in epilepsy, mental retardation, juvenile paralysis and schizophrenia [2], astereognosis (1914), sensory disturbances (1915, 1916) and disorders of equilibrium following gunshot wounds to the head (1916), juvenile postencephalitic psychopathology (1924, with Otto Kauders), micrographia in sensory aphasics (1925, with Paul Schilder), body rotation around the longitudinal axis in cerebellar diseases (1926) and in the visuomotor syndrome (1926, with Hans Hoff and Schilder), the symptomatology of focal lesions in the boundary zone between lower parietal and middle occipital lobe (1930), and clinicopathological correlations in encephalomyelitis and multiple sclerosis (1931, with Sträussler).

Being of Jewish descent, Gerstmann was forced to emigrate to the United States after the March 1938 *Anschluß*. With his wife Martha (a native of Pilsen, Bohemia) and fellow neurologist Otto Marburg (1874–1948), he boarded the Cunard White Star RMS *Aquitania* in Southampton, arriving in New York on June 14, 1938. His American sponsor was Paul Schilder (1886–1940). Gerstmann became affiliated with St. Elisabeth's Hospital, Washington, D.C. (research assistant and neurology consultant, 1941–1942), the New York Neurological Institute (research associate, 1941–1945), and Postgraduate and Goldwater Memorial Hospitals (attending neuropsychiatrist, 1941–1946).

In May 1942 Gerstmann gave a presentation at the 98th annual meeting of the American Psychiatric Association in Boston on the 'imperception of impaired somatic functions and parts of the body in organic brain lesions.' In 1957 he gave the annual Paul Schilder Memorial Address to the Society for Psychopathology and Psychotherapy in New York on 'Psychological and phenomenological aspects of disorders of the body image.'

Josef Gerstmann practiced neurology at 240 Central Park South in New York City until shortly before his death on Sunday, March 23, 1969 at the age of 82. During his American years he showed renewed interest in the Gerstmann syndrome [7, 10]. Aided by Karl Gloning, Martha Gerstmann had the last notes of her husband on the syndrome published posthumously [9].

References

1. Benke T (2001) Early concepts of tactile object recognition: An historical synopsis and appraisal of Josef Gerstmann's Reine taktile Agnosie (1918). Cogn Neuropsychol 18:263–266
2. Gerstmann J (1916) Beitrag zur Kenntnis der Entwicklungsstörungen in der Hirnrinde bei genuiner Epilepsie, Idiotie, juveniler Paralyse und Dementia praecox. Arbeiten Neurol Inst Wiener Univ 21:286–313
3. Gerstmann J (1924) Fingeragnosie. Eine umschriebene Störung der Orientierung am eigenen Körper. Wiener Klin Wochenschr 37:1010–1012
4. Gerstmann J (1927) Fingeragnosie und isolierte Agraphie; ein neues Syndrom. Zeitschr Gesamte Neurol Psychiatr (Berl) 108:152–177
5. Gerstmann J (1928) Über ein noch nicht beschriebenes Reflexphänomen bei einer Erkrankung des zerebellaren Systems. Wiener Med Wochenschr 78:906–908
6. Gerstmann J (1937) Über ein neuartiges hirnpathologisches Phänomen. Wiener Klin Wochenschr 50:294–296
7. Gerstmann J (1957) Some notes on the Gerstmann syndrome. Neurology 7:866–869
8. Gerstmann J, Sträussler E, Scheinker I (1936) Über eine eigenartige hereditär-familiäre Erkrankung des Zentralnervensystems. Zugleich ein Beitrag zur Frage des vorzeitigen lokalen Alterns. Zeitschr Gesamte Neurol Psychiatr (Berl) 154:736–762
9. Gerstmann MM (1970) Some posthumous notes on the Gerstmann syndrome by J. Gerstmann. Wiener Zeitschr Nervenheilk 28:12–19
10. Lebrun Y (2005) Gerstmann's syndrome. J Neuroling 18:317–326