

Professor Kazimierz Orzechowski – initiator of the first university department of neurology in Warsaw

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Professor Kazimierz Orzechowski, PhD, MD, was the first Head of the Chair and Department of Nervous Diseases of the University of Warsaw (currently named Chair and Department of Neurology of the Medical University of Warsaw). He is also credited as the founder of the so-called second Warsaw school of neurology which emerged alongside the neurology school created by Professor Edward Flatau in the Jewish Hospital in Czyste.

Professor Orzechowski was an outstanding scientist, a brilliant neurologist and neuropathologist, and – last but not least – a highly esteemed teacher. He created the Department's first medical team which comprised a number of excellent neurologists including Rudolf Arendt, Jerzy Choróbski, Łucja Frey-Gottesman, Aniela Gelbard (Zofia Majewska), Jerzy Jarzyski, Władysław Jakimowicz, Zygmunt Kuligowski, Stanisław Mackiewicz, Adam Opalski, Aleksander Ślaczka and others. Many of them later became heads of university departments in their own right, while Prof. Jerzy Choróbski was recognized as the father of Polish neurosurgery [1,2].

Kazimierz Edmund Orzechowski was born in Przemyśl, on 5 February 1878, as a son of Helena Ptaszek and Zygmunt Orzechowski, an officer in the Imperial and Royal Austrian Army. After graduating from a secondary school in Przemyśl in 1896, Orzechowski began medical studies at the Lviv University, earning the title of doctor of medicine (*Doctor Medicinae Universae*) in 1902. He continued his medical education in Vienna, where he worked in Prof. Neisser's Clinic and in the outpatient unit of Prof. Krafft-Ebing's Psychiatric Clinic. During that period Orzechowski also worked as the so-called 'demonstrator' in Prof. Obersteiner's Neurology Institute and then as Obersteiner's assistant,



Fig. 1. Professor Kazimierz Orzechowski during his work in Vienna (1903-1909)

between 1905 and 1909. He returned to Lviv in 1909 to take up the post of Head of the Neurology and Psychiatry Department in the National Hospital in Lviv. A year later he was awarded his habilitation on the basis of studies in the field of neuropathology. In 1919, Orzechowski was appointed to the rank of Associate Professor at the Lviv University. A year later, in 1920, he was honoured with the title of full professor and appointed as Head of the newly established Department of Nervous Diseases of the University of Warsaw. At that time Warsaw could boast several outstanding neurologists, however the post was given to young Prof. Orzechowski

because Dr Samuel Goldflam, an internationally acclaimed neurologist, was already in advanced age and, furthermore, he did not have formal scientific titles. Professor Edward Flatau, another internationally respected scientist and neurologist, stood firmly at the helm of the Warsaw neurology school, which he himself had founded, and worked as Head of the Neurology Department in the Jewish Hospital in Czyste, a healthcare institution with an excellent reputation. Professor Orzechowski's appointment sparked a certain level of rivalry between the two neurology centres existing in Warsaw [2]. It must be noted that another potential candidate for taking up the position of Head of Warsaw's first Neurology Department was Dr Joseph Babinski, an internationally recognized neurologist.

Prof. Orzechowski headed the Department of Nervous Diseases of the University of Warsaw until his death in 1942. Not only did he organize the Department, ensure a high level of clinical and scientific expertise and develop numerous laboratories, but above all he built a strong team of assistants whom he supervised, initiating and actively participating in joint research pro-

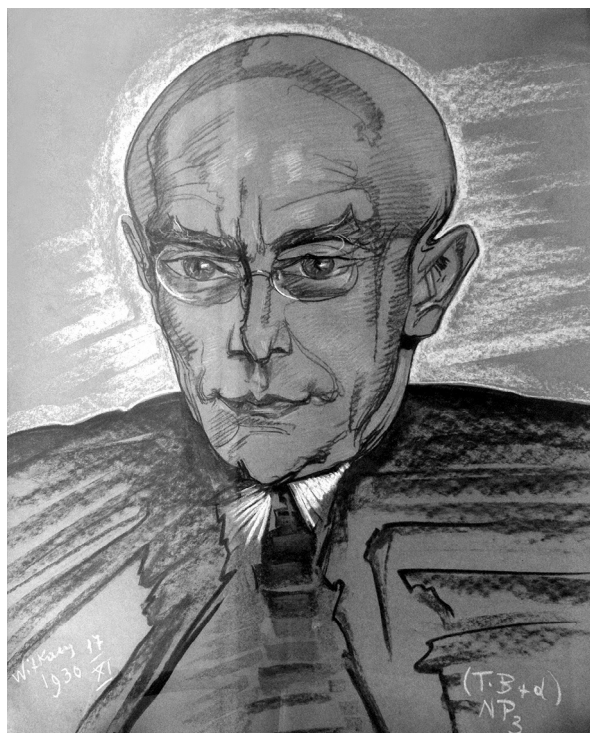


Fig. 2. Witkacy's portrait of Prof. Kazimierz Orzechowski

jects. In 1934, after Prof. Flatau's death, Orzechowski replaced him as Head of the Neurobiology Department of the Marcei Nencki Institute. In 1935 he became Head of the Neurosurgery Unit co-created with Prof. Jerzy Choróbski in the Neurology Department at the Trauma Institute, which paved the way for the emergence of Polish neurosurgery. After the Warsaw Neurology Society branched off from the Warsaw Medical Society in 1921, he was made the new Society's Board Member and later the Treasurer. In 1933, Prof. Orzechowski was elected as the first President of the newly established Polish Neurological Society. Between 1923 and 1938, he was a member of the editorial board of the *Neurologia Polska* [Polish Neurology] journal. In 1938, he became the journal's editor-in-chief. In 1929-1930, he served as Dean of the Faculty of Medicine of the University of Warsaw. He co-organized a number of congresses and conferences, both for Polish and foreign scientists, and was actively involved in them by reading papers and presenting results of his studies. From 1921 onwards he was a keen Member of the Academy of Medical Sciences and in 1930 he joined the Polish Academy of Skills (PAU). Orzechowski also belonged to many foreign scientific associations: the Neurological and Psychiatric Society based in Paris, Neurological and Psychiatric Society in Vienna, Estonian Neurological Society and

Association of German Neurologists [3]. As Prof. Herman writes in his book: 'he [Orzechowski] was skilled in choosing his fellow researchers and students, and introducing them to objective and conscientious work habits. He was always very pleased with them and took pride in them, even though he never showed it. However with us, who had already left his school, he shared the fair and high opinion he had of his students' [3].

Professor Orzechowski read both scientific literature and fiction. He was fond of painting – the best proof of his passion are four marvellous portraits of Orzechowski and his wife by Witkacy, currently in the possession of the Professor's son. A reproduction of one of the portraits is presented below (Fig. 2).

Professor Kazimierz Orzechowski died suddenly of myocardial infarction on 5 February 1942, on his birthday, in his own apartment in Aleja Róż in Warsaw (not, as Wikipedia erroneously claims, in the Warsaw ghetto [4]). He was laid to rest in the Powązki Cemetery [5]. He frequently visited the Warsaw ghetto, though, to see his patients [5].

Professor Orzechowski was married twice. His first wife was Zofia née Bosiewicz, while his second spouse, whom he married in 1937, was Aniela née Honckiewicz. He had four children by his first marriage: two who died in childhood, a daughter named Anna and a son, Adam, an engineer. In his second marriage Orzechowski had a son, Kazimierz, born on 1940, who later became an anaesthesiologist.

Throughout his scientific career Professor Orzechowski amassed over 70 publications which appeared in Polish, German, English and French journals. Having gained extensive knowledge and experience during several years of work and medical training in Vienna, he had an excellent scientific background for conducting both clinical and neuropathological research. He was known for his enormous commitment, perceptiveness, conscientiousness, insightful clinical interpretations and the ability to draw correct conclusions [3,6]. Orzechowski's works can be roughly broken down into two categories: clinical and neuropathological. Some of Orzechowski's best known clinical works are devoted to myotonia. He was the first author in medical literature to report the paretic component of the disease in which a myotonic contraction is followed by transient muscle paresis without response to stimulation with interrupted electric current. He also described pseudomyotonic symptoms in tetany. In the area of clinical symptomatology, a mention should be given to the work *O niedowładzie mięśni międzykostnych* [On the paresis of interosseous muscles], where Orzechowski described a characteristic

sign accompanying this type of muscular paresis, i.e. inability of afflicted individuals to place their finger into the nostrils. Another symptom reported by Orzechowski, arguably even better known, is associated with ulnar nerve paralysis and interosseous muscle paresis. Orzechowski's finding was that when afflicted patients joined hands together as for prayer, fingers of the affected hand failed to adhere to the fingers of the healthy hand. The symptom is referred to in scientific literature as Orzechowski's sign. Also important are clinical studies on opsochonus and opsochorie which Orzechowski regarded as myoclonic and dysmetric ocular ataxia and associated with pathological changes in the dentate nucleus. He also investigated Dalrymple's sign and the 'nystagmus of the upper eyelid'. In his other original clinical works Prof. Orzechowski analyzed the role of the vegetative nervous system in the pathogenesis of epilepsy and in Charcot's disease. He emphasized the importance of endocrine disorders in periodic paralysis, believing that they were the underlying cause of positive Chvostek's sign and sexual disturbances. He was also the first to observe that in periodic paralysis adrenalin triggers episodes of weakness, while pilocarpine reduces their frequency. Orzechowski's research interests also extended to the extrapyramidal system: in his works he described different symptoms of extrapyramidal damage and thoroughly analyzed their pathogenesis. Orzechowski's fundamental publications in this area include *Próba syntezy niektórych zaburzeń pozapiramidowych* [Attempt at the synthesis of selected extrapyramidal disorders] (1922), which appeared in Vol. VI of *Neurologia Polska* published as a tribute to Dr Samuel Goldflam, and his paper *O unerwieniu pozapiramidowym* [On extrapyramidal innervation]. Also interesting are Orzechowski's studies on chorea, late onset parkinsonian syndrome (post-coma syndrome) and myoclonic symptoms. Prof. Orzechowski stressed the role of the so-called peripheral extrapyramidal system and linked the symptoms to sarcoplasmic changes. His research output also includes numerous case studies. One of the most notable examples is Orzechowski's description of third ventricle tumours, published in collaboration with Mitkus and later recognized by Wilson as one of the best reports alongside Dandy's and Fulton's.

Professor Orzechowski was also involved in therapeutic studies. He was the first to initiate the treatment of cerebral adhesions formed during meningitis with pneumoencephalography, and to use pilocarpine in the treatment of tabetic crisis. As already hinted above, he greatly contributed to the development of the Polish school of neurology.



Fig. 3. Professor Orzechowski with assistants. On his right – Łucja Frey-Gottesman (in front of Pavilion IV of Warsaw's Infant Jesus Hospital)

An important neuropathological study investigating the common aetiology of von Recklinghausen's disease and Bourneville's tuberous sclerosis was conducted by Orzechowski in collaboration with Nowicki. Orzechowski introduced his coined term of *neurinomatosi centralis*, referring to tuberous sclerosis, into medical literature. Furthermore, he demonstrated a similarity between glial proliferation in neuromatosis and tuber formation in tuberous sclerosis. The publications brought Orzechowski's name into prominence in the field of international neurology [7]. His scientific collaboration with Skłodowski resulted in a report on hepato-lenticular degeneration with pigment deposits in the substantia nigra (called *degeneratio hepato-lenticularis nigra*). Together with Kuligowski, Orzechowski described a special form of brain tumour localized in the frontal lobe – *neuroblastoma verum* [6]. Major studies also include a collaborative project with Łucja Frey on histological lesions in the cerebral cortex (layers V/VI specifically) and in the spinal cord occurring in amyotrophic lateral sclerosis. The work, based on own study material, describes a number of previously unknown neuropathological lesions within the grey matter of the spinal cord and brain [8].

Without a doubt, Professor Kazimierz Orzechowski is remembered in the history of Polish neurology as a brilliant neurologist and neuropathologist, an accomplished organizer and teacher, and an originator of his own school of neurology.

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