

ROBERT KIENBÖCK: THE MAN AND HIS WORK

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Robert Kienböck is best remembered for his publication “Concerning traumatic malacia of the lunate and its consequences” in 1910. However, this is only one of 250 publications, an eight volume edition on radiology and his uncountable presentations to the scientific world. He also was an inventor and entrepreneur and the first president of the Austrian Röntgen Society.

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Fig 1 Portrait of Robert Kienböck.

THE MAN AND HIS WORK

“One must not try to honor this man within a short remembrance speech”, that is what Ernst Ruckenstein said in his eulogy only one year after Robert Kienböck’s death.

Robert Kienböck (Fig 1.) was an outstanding radiologist and also a pioneer in radiotherapy. He was the first to establish his own radiology institute in Sanatorium

Fürth in Vienna’s eighth district. Keen on radiological diagnoses he soon focused on the radiology of bones. He invented the first reliable film dosimeter to measure the exposure to radiation. He had around 250 publications but is best remembered for the one titled ‘Concerning traumatic malacia of the lunate and its consequences’, and for his eight volume work on radiology.

In honouring Robert Kienböck the first thing we all think of is ‘lunatomalacia’. This entity is linked with his name and his paper: ‘Über traumatische Malazie des Mondbeines und ihre Folgezustände: Entartungsformen und Kompressionsfrakturen’, which appeared in *Fortschritte auf dem Gebiet der Roentgenstrahlen* in 1910. Kienböck presented 16 of his own cases, described the pattern of this disorder and gave his views on pathogenesis and treatment, also mentioning metabolic disorder and its restoration as well as excision of the lunate. Only a few are aware that in the very same issue he also described the patterns of carpal dislocations more or less as we know them today.

Robert Kienböck was born on January 11th 1871 in Vienna. This was the year that the German Princes and cities restored the German Empire and Wilhelm, King of Prussia, took up Imperial office as the first ‘Kaiser und König’. Robert Kienböck’s father, Karl, was a successful lawyer, his mother Adele (née Sandor), was also from a well respected family. Robert Kienböck’s brother, Viktor, would later become famous and respected for his strict and successful currency policy as Austria’s Minister of Finance in the 1920s. Like all male members of his family Robert Kienböck attended the Schottengymnasium between 1881 and 1889. He then entered the Medical School of Vienna and graduated on the 25th of July, 1895 at the age of 24. In November of this year a German Physics Professor at the University of Würzburg, Wilhelm Conrad Röntgen, discovered X-rays and a few weeks later on the 22nd December took the first radiograph of a hand, that of his wife, Bertha.



Fig 2 Allgemeine Poliklinik today no more a hospital but part of a research centre (only the historic façade still exists).

In 1896, Robert Kienböck visited Paris and London for further studies. On these travels he encountered radiology. On returning to Vienna he entered the Allgemeine Krankenhaus and joined the 'Klinik Schroetter'. There he had the opportunity to work with the new technology of radiology. Although new to this fledgling field, his peers sought his advice on the use and interpretation of radiology.

In 1899 Robert Kienböck joined the Franz Josef Ambulatorium. During that same year he started the first private radiology institute in the Sanatorium Fürth. By 1904 he had earned an extraordinary reputation not only in the German speaking countries but throughout Europe for his publications, his speaking ability and his mastery of foreign languages. In 1898 he published on pyopneumothorax, and in 1900, only five years after the discovery of X-rays, on radiotherapy. Soon afterwards he began focusing on bones and their acute atrophy, later described as 'Sudeck's' atrophy. His appointment as a postdoctoral lecturer in 1904 seemed a logical progression. However radiology was still a controversial technology then and had not yet been accepted as a useful discipline in the medical world.

Wagner-Jauregg, a renowned neurologist, was the man behind the decision to favour Kienböck and his colleague Guido Holzknacht and by doing so he aided the development of this new medical discipline. At that time examinations using X-rays were conducted by doctors in internal medicine. With Kienböck's appointment he became a full member of the Poliklinik Wien, Mariannengasse 8, Wien IX (Fig 2). This clinic was founded in 1872 by the faculty members of Vienna

Medical School to provide care and free treatment to the poor. Within this Poliklinik, Kienböck established the first department of radiology in Austria. Radiographs for the diagnosis of disease had been used in this clinic from 1896 by M. Benedikt and carried on later by J. Schröder and G. Kaiser. All these pioneers suffered major radiation injury forcing them to give up radiology (Fig 3).

Kienböck participated in founding the German Röntgen Society in 1905. By this time he had helped resolve the debate on whether X-rays themselves or their electrical side effects caused the treatment effects in radiotherapy. This was in a paper on dose-related X-ray effects in radiotherapy which he presented to the community of dermatologists. In 1903 he presented a device for measuring the X-ray dose with the option of documenting its reliability. This device was enthusiastically received by the scientific community (Fig 4). In 1907 he published his handbook on radiotherapy.

The year 1910 was remarkable in more than one sense. This was the year that the earth passed through the tail of Halley's Comet, Robert Koch and Florence Nightingale both died and Mother Theresa was born. We note this as the year Kienböck published on 'lunatomalacia'. For Kienböck personally the year bore happiness and near disaster. On August 25th he married Bianka Notburga (née Schindelmaier, widowed Barbieri). In the same year he had a riding accident with dramatic consequences: he fractured his skull and recovered from this slowly. The cheerful sportsman became transformed into a quiet labourer.



Fig 3 Robert Kienböck in the radiology department of Poliklinik 1909, sitting in front of his colleagues.

In the years up to World War II, he had established himself as an outstanding authority in diagnosing bone diseases and tumours. His studies and descriptions resolved the diagnostic difficulties experienced in distinguishing diseases described by Mb. Recklinghausen and Mb. Paget. On June 4th 1923, together with Holzknrecht and Haudek, Kienböck co-founded the Viennese Radiology Society from which emerged the Austrian Röntgen Gesellschaft on December 8th 1934 with Robert Kienböck as its first President. In 1934 he also started his eight volumes on radiology.

The annexation or Anschluss on the 12th of March, 1938 to the Third Reich, meant the end of Austria and its institutions. Above all, an enormous human tragedy occurred. Jewish colleagues were deported or had to leave or flee, many of them committed suicide. Fürth, the owner of the Sanatorium, was one of them and the Poliklinik lost two thirds of its outstanding and highly valued faculty.

During World War II Kienböck continued his work in radiology. This only ended when he suffered two consecutive strokes in 1942 at the age of 71. Although handicapped and afflicted by severe depression he stayed interested in the scientific community. After the war he became the honorary president of the Austrian Röntgen Society which was founded on November 30th 1946 in the Poliklinik. When he died on September 7th 1953 he was known as one of the few pioneers in radiology who



Fig. 4 Kienböck's Quantimeter used to measure the dose of X-ray radiation on display at the Museum of the Institute for the History of Medicine, Medical University Vienna.

outlived many of his colleagues who had lost limbs or had their lives shortened by the effects of radiation exposure.

The Austrian Röntgen Society now honours Robert Kienböck with its 'Kienböck Award' for young colleagues in the field of radiology.

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Conflict of interests

None declared.

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