

MD REMEMBERS: Pasha Of Pathology

■ Rudolf Ludwig Karl Virchow, the great German scientist-statesman who made medical history with his *Cellular Pathology* and reformed public health by his political activities, was born 150 years ago on October 13. When he died 81 years later it was said that his country had lost four great men: its leading pathologist, anthropologist, sanitarian and liberal.

Called the pasha or pope of pathology, Virchow established the nature of thrombosis and embolism, added to the knowledge of inflammation and fatty degeneration, described leukemia* and left a legacy of distinguished pupils. He taught biologists that life is continued only by a legitimate succession of cell formations and that disease is caused by cellular responses to abnormal stimuli.

Early Years. The only child of an elderly couple, Virchow came from Schievelbein in Pomerania, the region that produced his Junker adversary Otto von Bismarck. Little is known of the famous pathologist's mother but his father was an intelligent, eccentric farmer who served as the town treasurer.

As a boy Virchow showed an interest in natural history, a talent for languages and a dedication to work; his graduation thesis at Koeslin's gymnasium extolled the benefits of a life of toil. When he began his medical studies at the Kaiser Wilhelm Akademie in 1839 the Army doctor who examined him said: "This young man is gifted for every thing except becoming diseased."

After completing his training under Johannes Muller at the University of Berlin, Virchow submitted a paper on rheumatic disease, received his M.D. in 1843 and became assistant and later successor to Robert Froriep at Charité Hospital. The patients liked the small, slender, fair-haired youth whom they called "der kleine Doctor" but some of his older-colleagues objected to an address in which Virchow stated that medicine must be based on a mechanistic approach.

* In 1845, the year that British physician John Hughes Bennett independently described the disease.

In 1847 Virchow became Privatdozent at the university and with Benno Reinhardt founded the *Archiv fur pathologische Anatomie und Physiologie und klinische Medizin*. The following year, assigned to investigate a typhus epidemic in Silesia, Virchow returned to criticize the government for its lack of hygienic regulations. His report called for the creation of a ministry of health, reforms in medical education as well as complete democracy to bring about the prosperity, culture and freedom required to improve social conditions.

During the revolution in March 1848 Virchow helped to build a few barricades and joined other physicians in demanding self-government for the various professions. As a result of his political activities he was suspended by the university in 1849 but the students protested and he was reinstated in a fortnight and placed on probation. Later that year he accepted an appointment at the University of Wurzburg and just before he left he became engaged to Rose Mayer, the 17-year old daughter of his friend Dr. Oscar Mayer.

Professor. At Wurzburg Virchow collected material for his cellular theory, published a number of monographs and co-founded the *Yearbook of Accomplishments and Progress in Medicine*. The number of medical students at the university quadrupled during his reign but in 1856 he returned to Berlin to direct the Pathological Institute that the university created for him. He continued to work with his microscope, to perform autopsies and to deliver the lectures that formed the basis of *Cellular Pathology*. Because his institute office was filled with bones and his home office cluttered with books and papers he held his consultations in a hotel. While he was known as a "fierce" examiner his department became a mecca for students who gained distinction. Among his famous pupils were Julius Cohnheim, Theodor Billroth, Edwin Klebs, William Osler and Ernest Haeckel.

In spite of his reputation for icy reserve, Virchow enjoyed singing,

drinking wine with friends and entertaining his colleagues at his home. He usually vacationed at the Pomeranian coast with his adoring wife and six children.

Multidisciplinary. During the Franco-Prussian War Virchow led the first hospital train to the front but after 1870 he devoted most of his time to anthropology and archeology. He excavated with Heinrich Schliemann at Hissarlik, with George Schweinfurth in Egypt and



Dr. Rudolf Ludwig Karl Virchow

did his own field work in the Caucasus when he was 73. Working simultaneously in many fields he made important discoveries in parasitology, studied philology, published some 2000 papers and books.

One of the founders of the German Progressive Party, Virchow served on Berlin's city council from 1859 until his death and was largely responsible for the construction of the municipal water supply and sewage disposal systems. As a member of the Reichstag from 1880 to 1893 he often was Bismarck's fiery opponent.

It has been said that while Virchow was a liberal in politics in his youth, he became a reactionary in science in his old age, but his activities scarcely ebbed. At 78 he dedicated the Pathological Museum and placed on its shelves 23,066 specimens that he had personally prepared and labeled. Scientists from all of Europe and Japan gathered to celebrate his 80th birthday but the following year he died on September 5, 1902.