John von Neumann was born in Budapest, at 62 Kaiser Wilhelm Street (now Bajcsy-Zsilinszky Street) on 28 December, 1903. There are two commemorative plaques on the wall of the building; the second one, bearing inscriptions in both Hungarian and English was unveiled only a few weeks ago by the János Bolyai Mathematical Society and the American Mathematical Association.

Neumann went to the evangelical high school where his eminent teacher László Rátz quickly recognized his extraordinary talents. After graduation he studied chemistry in Berlin and Zürich. He obtained his doctorate degree in mathematics in Budapest, 1926. He taught at the universities of Berlin and Hamburg for a few years, but in 1930 he was invited to Princeton, to work at the recently founded Institute for Advanced Study. That is where he did his diverse research until his untimely death on 8 February, 1957.

John von Neumann is generally known to have played a key role in the development of the structure of present-day computers. It is much less known that he was also one of the greatest thinkers and researchers of 20th-century mathematics (in the whole world, not only among those of Hungarian origin).

Even his doctoral thesis and a few related papers made a lasting influence on mathematics. They contributed to the foundations of *set theory* that was developed in the 19th century. It became clear as early as the early years of the 20th century that contradictions would arise in set theory unless it is built on a rigorous axiomatic foundation. In order to avoid contradictions, the techniques to form sets out of given ones must be rigorously established. These are the considerations that Neumann developed further. It was his idea, what now is a general practice, that sets leading to contradictions should also be discussed but they should be carefully distinguished from genuine sets (for example, by calling them *„classes”* instead of „sets”).

At the end of the 1920s he arrived at one of his fundamental achievements. He laid the mathematical foundations of *quantum theory,* a revolutionary method of 20th-century theoretical physics. The theory in its original form made use of contradictory mathematical concepts, too. Neumann noticed that the contradictions could be avoided by a more generalized use of the *operators* (i.e. mappings into itself) of *Hilbert space.* (Hilbert space is a generalization of our ordinary space in which a point has not only three but infinitely many coordinates.) His paper *Mathematische Grundlagen der Quantenmechanik* published in 1932 is still considered fundamental to this theory.

It was an original idea of his to investigate the algebraic relationships between the operators of the Hilbert space. The structures obtained in this way (he called them *operator algebras* but now they are generally known as *Neumann algebras*) provided countless problems for mathematicians even after John von Neumann's death.

As another topic inspired by physics, he also made a remarkable contribution to the foundation of statistical mechanics by developing the foundations of *ergodic theory.* It was also in the '20s that he started to work on the mathematical foundations of *game theory,* which were finally published in 1944. His joint paper with *O. Morgenstern* called *Theory of Games and Economic Behaviour* established the mathematical background of economics. Had the Nobel Prize existed in economics in John von Neumann's time, one of the first Prizes would certainly have been awarded to him.

During the war he investigated the theory of *differential equations* in the background of *hydro- and aerodynamics* that were important from the military point of view.

The last more than ten years of his life were devoted to the theoretical problems and practical realizations of the structure of *computers* that made possible a wider range of applications to mathematics. Owing to all his great achievements, he is honoured as one of the most versatile and prolific researchers of mathematics and its applications.