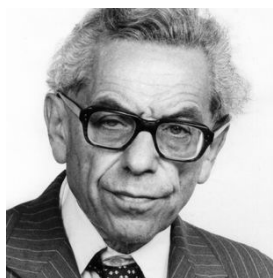


# Paul Erdős

1913-1996



Paul Erdős was born in Budapest, Hungary on 26 March, 1913. His parents Lajos and Anna Erdős were teachers of mathematics in a high school. He was a child prodigy. He had his initial education at home from his parents and a tutor. His higher education was from the University of Pázmány Péter in Budapest from where he obtained his Doctoral degree in 1934. Soon after, he accepted a post-doctoral fellowship at the University of Manchester. He first visited United States in 1938 on a fellowship at Princeton. He held part-time positions at Purdue University in 1943 and at the University of Notre Dame in 1952. During this period he was traveling between England, Hungary (when the political system allowed) and United States. Subsequently he settled in Israel, returning to USA only in the sixties. He declared himself a citizen of the world, was resident in Israel, and kept his Hungarian passport. Erdős died of heart attack in Warsaw, Poland on September 20, 1996 while attending a mathematical meeting.

Mathematical interests of Erdős were diverse. His first love was number theory and combinatorics. Erdős-Selberg proof of the prime number theorem showed the power of combinatorics. He created, the theory of random graphs along with Alfréd Rényi, the probabilistic number theory along with Mark Kac, extremal graph theory along with Pál Turán. He contributed extensively to probability theory as well as set theory.

Erdős was one of the most prolific publishers of papers in mathematical history, second only to Leonhard Euler. He had more than 1500 research papers mostly with co-authors. To name a few of his contributions, we have Erdős conjectures, Erdős-Ko-Rado theorem, Erdős-Kac theorem, Erdős cardinal, Erdős-Szekers theorem . . . . Friends of Erdős created the concept of Erdős-number as a humorous tribute to him. Erdős himself has Erdős-number zero while his immediate collaborators have Erdős-number one. Those who have not directly collaborated with him but collaborated with his collaborators have Erdős-number two and so on. His style was to work on many problems at the same time with colleagues at far flung locations. Erdős saw it as his personal mission to help

colleagues maintain their mathematical edge. Throughout his career he sought out younger mathematicians encouraging them to work on problems he had not solved. He created a system of payments for solutions, by announcing prizes. He was the prince of problem solver and absolute monarch of problem posers. He was intensely curious, always asking fundamental questions.

Erdős held no formal positions. He was always on the move, visiting places, receiving payment for his work – a major part of which he contributed to the needy – and moved to the next destination. To Erdős, being denied to travel is like being denied the right to breathe. The only possession that mattered to him was his mathematical note books. According to Erdős, mathematics is the only infinite human activity. It is conceivable that humanity could eventually learn everything in physics or biology, but certainly will never be able to find out everything in mathematics because the subject is infinite.

He was a member of the Hungarian Academy of sciences. He received the Cole prize of the American Mathematical Society in 1951 and was a speaker at the International Congress of Mathematicians in 1983. He was awarded the Wolf Prize in 1984 and he used the money to set up a scholarship in Israel. Erdős visited Indian Statistical Institute on several occasions.

***Article by: Bhamidi V. Rao, Professor, Statistics and Mathematics Unit, Indian Statistical Institute, Kolkata, India.***

