Emil Grosswald

December 15, 1912 - April 11, 1989

[78, 660, 1950, 2009, 2, 3, 10]

Wikipedia: https://en.wikipedia.org/wiki/Emil_Grosswald

Essay by Vivian Choong

Emil Grosswald was a Romanian mathematician that specialized in analytic number theory. Studying mathematics and electrical engineering, Grosswald received his master's degree at the University of Bucharest in 1933. After completing his diploma under the École supérieure d'électricité graduate school in Paris, Grosswald dedicated himself to stay in the French city until 1940 due to World War II breaking out. Leaving Paris, Grosswald continued his doctoral studies in mathematics at the University of Montpellier. Due to the war, Grosswald constantly moved worldwide, moving to Cuba in 1941, Puerto Rico in 1946, and subsequently to the United States in 1948. At the University of Pennslyvania, Emil received his Ph.D. on his thesis, *On the Structure of Some Subgroups of the Modular Groups,* under his advisor Hans Rademacher in 1950.

Grosswald continued his academic career as he started his first position as a professor at the University of Saskatchewan and moved to the Institute for Advanced Study at Princeton University the year after. Afterward, he would return to a permanent position as a professor at the University of Pennsylvania. He spent the majority of his life at the University of Pennsylvania until 1968 where he became Professor of Mathematics at Temple University. Despite retiring in 1980, Grosswald continued his academic endeavor by spending his time at the Technion in Haifa, Israel, from 1980-1981. He would then return to the United States as a visiting professor for Swarthmore college in 1982 and the University of Pennslyvania in 1984.

In 1972, Grosswald notoriously published a few proofs of theorems written in Ramanujan's Lost Notebook in his paper titled, *Comments on some formulae of Ramanujan* in Acta Arithmetica, a scientific journal by the Institute of Mathematics of the Polish Academy of Sciences that publishes articles on number theory. Despite being an analytic number theorist, Grosswald also wrote on classical analysis and its related topics. Some notable works Grosswald wrote were *Topics from the theory of numbers (*1966), *Bessel Polynomials* (1978), *Dedekind Sums* (1972), and *Representations of Integers as Sums of Squares* (1985).

In 1989, Emil Grosswald passed away in Narberth, Pennsylvania. After his death, the American Mathematical Society held a national meeting, and in 1991 a collection of writings titled "A Tribute to Emil Grosswald: Number Theory and Related Analysis" were written by several mathematicians were published in his honor. One of the editors commented, "In Grosswald's world, mathematics is a challenge demanding dedication and long hours of work; it is science combined with art, truth with beauty. It is passionate and eternal pursuit of excellence. It is humility in the face of a powerful and proud history. Above all, it is meaning, a reason to go on..." Another college of Grosswald wrote, "He seemed to know everything - indeed it seems to me he must always have known everything. He was supportive, enthusiastic, but also demanding ... The depth of his love for mathematics inspired us all to strive to do better."