TIBOR GALLAI, 1912–1992

Photo: Ágnes Csánits
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Tibor Gallai (born Grünwald), who had a major influence on graph theory and combinatorial optimization, died on January 2, 1992, after many years of frail health.

Gallai was born on July 15, 1912, in Budapest as the second son of Dávid Grünwald and his wife Katalin (née Benedig). His brother, Gyula was born in 1909, and his sister, Ibolya (“Cini”), in 1916. The family lived by very modest means. An educated man, Dávid made their living by giving piano lessons. Gyula grew up to become an engineer. Cini emigrated to Bolivia in 1939 and died of a tropical disease two years later, at the age of 25, leaving an infant daughter.

Tibor’s mathematical career started at high school when he became a diligent problem solver for the Hungarian High School Mathematical Monthly (where he competed successfully with Paul Erdős, among others). As a winner of the prestigious Eötvös mathematical competition, he was admitted to the university* in face of the “numerus clausus” law which limited the total proportion of Jewish students in Hungary to 5%.

Gallai’s mathematical interests were greatly influenced by the lectures of Dénes König, professor at the Technical University of Budapest, author of the first monograph in graph theory. Another source of inspiration came from the informal mathematical excursions and outdoor seminars held by a group of students including Pál Erdős, György Szekeres, Eszter Klein, Pál Turán, Mártá Sved (née Wachsberger).

Gallai received his diploma as a high school teacher of mathematics and physics in 1936. By then, Jews were practically banned from the teaching profession in Hungary and Gallai had to start his career as an actuarial mathematician. After a year he became a “calculator” at a textile factory; finally, in 1939 he lost that job, too, and had to make his living by private tutoring and occasional teaching at a Jewish community school.

It was during these same years that his first mathematical papers appeared. He completed his doctorate in 1940 at the Budapest University of Science.

Grim years followed. Gallai survived the horrors of three years in forced labor camps. It was not until after the defeat of the Nazis in Spring 1945 that he had a chance to fully practice his beloved profession. He became a teacher in a Jewish girls’ high school in Budapest. Out of the 26 students in his first class, three have subsequently become research mathematicians.

Devoted to spreading the joy of mathematics, Gallai, together with Rózsa Péter, wrote new high school textbooks proposed for nationwide use. The books, marvelous by all accounts, were thoroughly tested on Gallai’s students but eventually did not gain acceptance, perhaps for requiring an initiated teacher.

In 1945, Gallai joined the Communist Party, the organization seen at the time by many as a force representing social ideals and uncompromising opposition to

* See Paul Erdős’s account on p. 207 of Combinatorica 2 (1982).