Radó, Tibor | Encyclopedia.com

(*b*. Budapest, Hungary, 2 June 1895; *d*. New Smyrna Bearch, 12 December 1965)

mathemtics.

The son of Alezander Radó and Gizella Knappe, Radó began his university studies in civil engineering at the Technical University in Budapest. In 1915 he enlished in the Royal Hungarian Army, was trained, and then commissioned a second lieutenant in the infantry. He took part in two major battles on the Russian front before being captured on a scouting mission. Of his capute, Radó recounted. “I had spend six months traveling back and forth through the Russian lines, Picking up information, cutting telephone wires and holding up supply trains. Then one day I was surrounded by Russians—I wasn’s surpriesed.”

His four years in prison camps read like a dramatic scenario. A an officer he found the camp in Tobolsk, Siberia, relatively comforatable in the period preceding the Revolution. Food was not readily and cheap, but reading material was not readily available. The only books he could obtain happened to be on mathematics.

After the Revolution, the prisoners’ life changed drastically. They were packed into boxcars and transproted thousands of miles under harrowing conditions, in order to get them out of the fighting zone. During the confusion he and three fellow officers traded names with four private soldiers. As far his family knew, Radó was dead. He spent the next year working as a laborer in railroad yards. He and a group of prisoners escaped by hijacking a train. Finally, in 1920 he returned to Budapest on an American financed boat which was assisting in the return of was prisoners. Back at the University of Szeged, he re-enrolled, this time as a matematics major, and in 1922 he received his Ph.D. Under Frigyes Riesz.

From 1922 to 1929 Radó was *privatdozent* at the University of Szeged and also adjunct at the Mathematical Institute in Budapest. He was awarded an international research fellowship of the Rockefefeller Foundation to study at Munich during 1928–1929. In 1929 Radó went to the United Stated as a visiting lecturer, first at Harvars (fal semester, 1929–1930) and then at Rice Institute (spring semester, 1930). In 1930 he moved to Ohio State University as full professor of mathematics.

In 1944–1945 Radó was fellow at the Institute for Advanced Studies at Princeton. At the end of World War II he went to Europe as a scientific consultant with the Army Air Force to recruit German scientists needed by the United States. He returned to Ohio State as chairman of the mathematics department in 1946, He resigned this post in 1948, when he was appointed the first Ohio State University research Professor, a position created to enable distinguished faculty members to pursue creative activity.

Radó’s research interests and contributions span a wide range of topics: conformal mapping, real variables, calculus of variations, partial differential equations, measure and integration theory, point-set and algebraic topology, rigid surfaces (very thin shells), logic, recursive functions, and what he called “Turing programs.”

Radó’s first major original contribution concerned Plateau’s problem, finding the surface of minimal area bounded by a given closed contour in space. The problem, which originated in the initial phases of the calculus of variations, is named for Joseph Plateau, who conducted experiments on certain shapes with soap bubbles. The existence and uniqueness of solutions in the general case remained to be solved independently by Radó and Jesse Douglas in the early 1930’s. Radó’s interest in problems relating to surface measure dated from his work under Riesz’s guidance on problems raised by Zoard de Geöcze. It was on the basis of the theory of functions of real variables of Lebesgue and Riesz that Radó was able to simplify and generalize Geöcze’s results and help to create a modern theory of surface area measure.

Radó was active in mathematical societies. He was invited to give the American Mathematical Society Colloquim Lectures in 1945, and in 1952 he gave the first Mathematical Association of America Hedrick Memorial Lecture. He was also an editor of the *American Journal of Mathematics* and served as vice-president of the American Association for the Advancement of Science in 1953.

BIBLIOGRAPHY

I. Original Works. Radó’s major works include “On the Problem of Plateau,” in *Ergebnisse der Mathematik und lhrer Grenzgebiete*, **2** (Leipzig, 1933; repr. New York, 1951); Sub-Harmonic Functions, *Ergebnisse der Mathematik under Hirer*

Grenzgebiete, V (Leipzig, 1937; repr. New York, 1949); *Length and Area*, American Mathematical Society Colloquium Publication, XXX (New York, 1948); and *The Mathematical Theory of Rigid Surfaces: An Application of Modern Analysis* (Chapel Hill, N.C., 1954), a collection of lectures presented at a summer conference at the University of North Carolina in 1954.

II. Secondary Literature. Antonio Mambriana, "Una visione dell'opera scientifica di Tibor Radó," in *Rivista di matematica della Università di Parma*, **1** (1950), 239–273, with portrait, covers in considerable detail Radó's contributions in conformal mapping, the Plateau problem, harmonic functions, and work related to surface area and the problems of Geöcze. It also contains an 83-item bibliography of Radó's work through 1949. Alice Holton, "Professor Recalls Siberian Prison Camp," in Columbus (Ohio) *Dispatch* (4 Dec. 1939), and Gwendolyn Riggle, "Years in Russian Concentration Camp Led Him to Professor's Post at O.S.U.," ibid., (2 Mar. 1941), are descriptive interviews with Radó that cover his early life in some detail. The Ohio State University News and Information Service has prepared a short biography as well as a more complete bibliography of 102 items that was drawn up by Radó in 1960. At his death he had written more than 140 papers and books, for which no single complete bibliography exists.

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