

**MEMORIAL RESOLUTION OF THE FACULTY OF THE
UNIVERSITY OF WISCONSIN-MADISON**

ON THE DEATH OF EMERITUS PROFESSOR J. BARKLEY ROSSER

J. B. Rosser, Emeritus Professor of Mathematics and Computer Science, died on September 5, 1989, two days short of his 54th wedding anniversary. He is survived by his wife, Annetta, a son, Barkley, and a daughter, Edwenna.

Barkley Rosser was born in Jacksonville, Florida, on December 6, 1907. He attended the University of Florida, receiving his B.S. and M.S. in physics, and his Ph.D. at Princeton in logic under Professor Alonzo Church in 1934. While his reputation was first made in mathematical logic, his research ranged widely, including analytical number theory, exterior ballistics, and the theory and application of computer science.

He held a Proctor Research Fellowship at Princeton, an NRC Fellowship at Harvard (1935-36), and then moved to Cornell University which remained his academic home until 1963. He served periodically as Chairman of the Mathematics Department. Among his doctoral students are some of the leaders in mathematical logic and computer algebra.

The world events of 1939 and 1941 affected him as they did many other mathematicians. He returned to his early interest in physics and applied mathematics and in 1944 went to Allegany Ballistics Laboratory to work with rocket theory and design. Several of his books emerged from this experience, including one on the mathematical aspects of rocket flight as well as a three-volume "Space Mathematics" which he edited.

This wartime experience also left him with a respect for those scientists who had turned their skills to support the security of the nation, and a personal acceptance of the possibility of similar roles for himself in the future.

In 1949 he was asked to become the Director of Research at a newly created Institute for Numerical Analysis, located at UCLA and sponsored by the National Bureau of Standards. At this early stage in modern electronic computing, Rosser was successful in drawing together a stellar group of mathematicians whose ultimate impact on the future of computing was memorable. He also saw that the computer held great promise for pure mathematics; one example was a project aimed at finding high precision values for the zeros of the Riemann zeta-function. While the final publication was delayed until 1969, this was among the earliest computational evidence supporting a famous conjecture of Riemann connected with properties of the prime numbers.

With the Institute functioning, Rosser returned to Cornell. In 1953-54 he received a joint Guggenheim-Fulbright fellowship which he spent in Europe, writing a book on modern logic. However, because able scientific administrators are rare, he also continued to receive requests to fill such posts, serving on many panels and committees connected with the Space Program and related projects, as well as other scientific organizations and research centers. Among these: Director of the Institute for Defense Analysis, Chairman of the Mathematics Division of the NRC, and Chairman of the Conference Board of the Mathematical Sciences.

In 1963 he moved permanently from Cornell to Wisconsin to become the Director of the Mathematics Research Center, replacing the first Director, Professor Rudolph Langer, who had chosen to retire. The presence of two longtime Princeton friends, Joe Hirshfelder and Steve Kleene, was an added incentive for Rosser. The MRC operated under a contract from the Department of the Army, originally awarded to the University in 1956. MRC was one of a number of similar semi-autonomous research centers on the campus with federal funding.

Professor Rosser modified the Center's organization to integrate it more closely into the normal departmental structure of the University by a policy bringing the best possible people in a needed subfield, with tenure when it was appropriate, and then leaving them free to carry out their own mathematical research. Consultation with mathematicians and other scientists in the government was a voluntary choice, parallel to that made by colleagues elsewhere in the University community.

The events of 1965-1969 raised tensions in many colleges, including Wisconsin, and MRC soon became an obvious target for student protest. However, once Rosser found that reason was of no avail with the opponents of MRC, he continued on the path which he felt was right, and bore the personal affronts with stoicism.

In 1970, the misdirected bombing, which killed a young physicist unaffiliated with MRC, brought a shocking end to this period. It did not end the productive work of MRC, or that of Barkley Rosser; two of his papers on the Zeta function appeared after he retired as Director of MRC in 1973, as well as other work dealing with numerical analysis.

Rosser's public service over the years was recognized by a Presidential Certificate of Merit, as well as other decorations and commendations from the Department of the Army and the Secretary of the Navy. He also received recognition from his mathematical peers. It is interesting to note that he served as President of two mathematical organizations whose stated goals might seem far apart, the Association for Symbolic Logic and the Society for Industrial and Applied Mathematics.

Barkley's interests were never confined to science, a fact well known to all the friends who took part in the informal musical evenings often marked by his piano and Annetta's violin, or the choruses of the Mikado and the Messiah. The Rossers had always enjoyed world travel, and continued even with Barkley in a wheelchair. Locally, he and Annetta were faithful members of the Madison Civic Chorus and loyal supporters of the Madison Symphony Orchestra and the Madison Art Center. Until his growing weakness made it impractical, the Rossers could always be found in the Christ Presbyterian choir or defending with remarkable success a daring bridge bid.

Barkley Rosser leaves behind him a legacy of dedication and scientific accomplishments that will be hard to match.

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