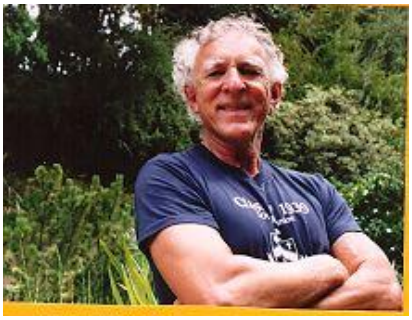

IN MEMORIAM

Raymond Redheffer
Professor of Mathematics, Emeritus
Los Angeles
1921-2005

Ray Redheffer, a leading mathematician and scholar who was a member of the UCLA Mathematics Department for 55 years, passed away on May 13, 2005 at the age of 84, due to complications from cancer. He joins his first wife, Heddy, who died in 1994, after 43 years of devoted marriage. Remarried in 1997, Redheffer is survived by his second wife Irene, son Peter and daughter- in- law Holly, and granddaughter Katie Lisette. Throughout his life, Redheffer was a driving vital force, and he was active mathematically and socially until the very end.

Born in Chicago on April 17, 1921, Redheffer graduated from the Asheville School in North Carolina in 1939. He spent the years 1939 to 1950 as an undergraduate and graduate student at MIT and as a Pierce Fellow at Harvard. During his graduate student years, he developed a taste for applications of mathematics through his work at the MIT Radiation Laboratory (radar) and the Research Laboratory of Electronics.

Redheffer came to UCLA in 1950. He was one of a core of new arrivals, including Richard Arens, Earl Coddington, Philip Curtis, Ernst Straus, and Robert Steinberg, who helped to transform the UCLA Mathematics Department from a rather modest department at a fledgling university to what was ranked, at the time of his retirement in 1991, as one of the top three mathematics departments among those at large public universities.

Redheffer published more than 200 scientific papers, on topics ranging from microwave analysis and dielectric constants to complex analysis and entire functions. The bulk of his work focuses on analysis related to differential equations, both ordinary and partial, and differential inequalities. He authored or coauthored three influential textbooks, one (with I. Sokolnikoff) on the mathematics of physics and engineering, one (with N. Levinson) on complex analysis for applications, and one on ordinary differential equations.

Redheffer held various visiting positions in Germany over the years, supported initially by a National Science Foundation Postdoctoral Fellowship, and on subsequent visits by Fulbright Foundation awards, an Alexander von Humboldt Senior Fellowship, and guest professorships. Though not a native speaker, Redheffer became fluent in German. In Germany he delivered his lectures in German, in fact "immer in ausgezeichnetem Deutsch!" according to tributes paid him in Germany upon the occasion of his 80th birthday. In 1977 he was honored by membership in the Deutsche Akademie der Naturforscher Leopoldina, and in 1991 he was awarded an honorary doctorate by the University of Karlsruhe.

Redheffer was an excellent teacher and an outstanding lecturer. He was a competitive person, and he was particularly effective at motivating calculus students in large lecture courses to perform well. He was a perfectionist, and he made strong demands on his students. One of his techniques was to cover the course material at a rapid pace to allow a week or two at the end of the course for review. This style earned him the nickname "lightening lecturer" in his early years at Harvard. Another technique was to assign a lot of homework, which he collected during lecture by passing around a wooden box compartmentalized by

discussion section. (He built several of these homework boxes for use by other department members.) Of several assignments due on a given day, Redheffer would determine which one he would collect by procedures that would often incorporate a mathematical lesson. His superior teaching talent was formally recognized in 1969 when he was awarded a UCLA Distinguished Teaching Award.

Redheffer's activities and interests were wide- ranging, from teaching mathematics to special education (deaf) students in Los Angeles schools to delivering a mathematics address at a meeting of glassblowers. He had a long collaboration with Charles and Ray Eames, and he worked with the Eames studio to produce a sequence of short films illustrating mathematical ideas and popularizing mathematics through visual images.

Most of his films were language- independent. Redheffer was an accomplished pianist, and he performed Chopin's Minute Waltz and the Schubert March Militaire for film soundtracks.

Redheffer was a physical fitness buff and an avid hiker. Over the years he accumulated a list of over 350 named peaks that he climbed, including Popocatepetl, and he was a member of the Hundred Peaks Section of the Sierra Club. Redheffer was physically strong, he worked out regularly at the gym, and he could perform, for instance, a flag, which consisted in supporting his body horizontally with his hands on a vertical bar. He enlivened his large lectures by performing one- armed pushups and back planches to illustrate mathematical concepts to his calculus students. He installed a pull- up bar at his office doorway, to engage and challenge his students at office hours.

Redheffer may be best known to the world of mathematicians and beyond for a mathematics time- chart produced in collaboration with Charles Eames as consultants for IBM. The chart depicts the history of mathematics from 1000 AD to the 1960s on a time line, on which the lives and accomplishments of major mathematicians are recorded, and contemporary social and political developments in the world at large are indicated. The chart, which is some four yards long, adorns the walls and common rooms of mathematics departments throughout the world, and it has been displayed in science museums in Chicago, Los Angeles, Boston, and elsewhere.

Many of the exhibits that Redheffer designed for Eames and IBM currently adorn the walls of the common room of the Mathematics Department. Through the Eames Studio, Redheffer produced a series of portraits of more than a hundred distinguished mathematicians, which are posted in the corridors in the heart of the Mathematics Department.

The portrait gallery of the most significant mathematicians, the tile "eye" exhibit illustrating binary data, and the homework boxes in the mailroom – all of these serve as everyday reminders to those of us left behind of the passing through these halls of a remarkable individual.

Redheffer was a singular person. He will be missed.

Theodore W. Gamelin