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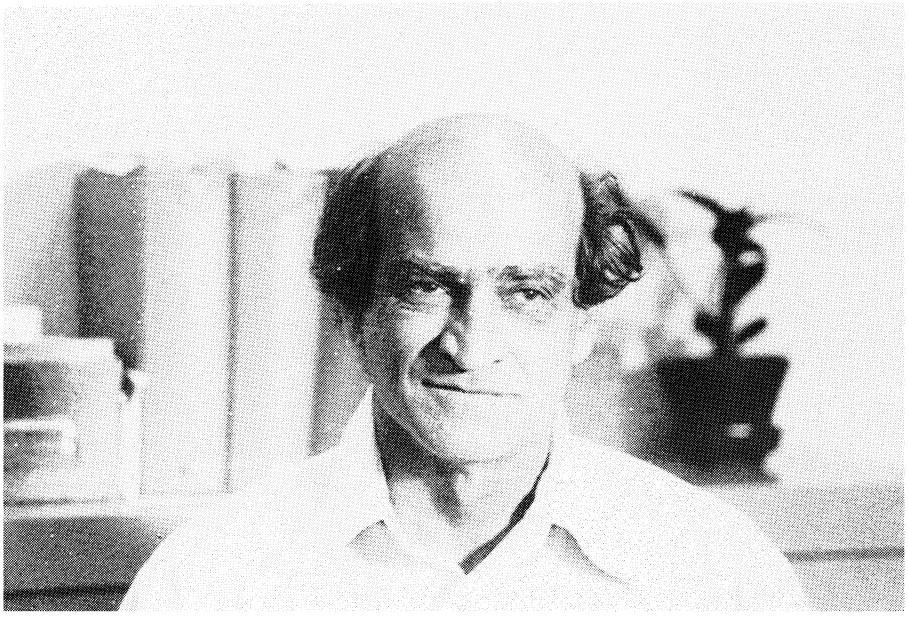

ERNST G. STRAUS, 1922–1983

We would like to express our thanks to the Pacific Journal of Mathematics for allowing us to dedicate an issue to Ernst Straus. Special thanks are due to Donald Babbitt, managing editor at UCLA, without whose initiative this volume would not have been possible. We also owe an enormous debt to Elaine Barth, secretary for the PJM at UCLA, for enabling us novices to clear the hurdles represented by production tasks. We are grateful to Louise Straus for her good advice and constant encouragement.

David Cantor
Basil Gordon
Alfred Hales
Murray Schacher

BIOGRAPHY — ERNST G. STRAUS 1922–1983

Ernst Gabor Straus was born February 25, 1922 in Munich, Germany. His mother received a medical degree from Heidelberg in 1905; hers was the first class in a German University in which women received such degrees. His father was a prominent attorney. Ernst was the youngest of their five children, whom they raised to cherish cultural and humanitarian values. His earliest mathematical step was taken at age 5, when he discovered the formula for the sum of an arithmetic progression. (Recall that Gauss was 9 years old before finding this formula.) After the Nazi rise to power in 1933, the Straus family emigrated to Palestine, where Ernst attended high school and the Hebrew University in Jerusalem. In 1941 he entered graduate school at Columbia University, where he received his Ph. D. in 1948 under F. J. Murray. In 1944 he became the assistant to Albert Einstein, and in the same year he married Louise Miller, a fellow student at Columbia. They spent the years 1945–1948 at the Institute for Advanced Study, after which Ernst accepted a teaching position at UCLA, which he kept until his death of a heart attack on July 12, 1983. He and Louise had two sons, Daniel and Paul, born in 1954 and 1957 respectively.

During his Princeton years, Ernst was strongly influenced by E. Artin and C. L. Siegel, and his major mathematical interests shifted from relativity theory to number theory, particularly to transcendental numbers. In this area he originated a deep and important theory which he called the arithmetic of analytic functions. This theory deals with the interplay between analytic properties of entire and meromorphic functions $f(z)$, and arithmetic properties of the values of $f(z)$ and its derivatives at certain sets of points. A survey of part of this field is contained in D. Sato's paper "Utterly integer valued functions" on pp. 523–530 of this volume.

In addition to writing the fundamental papers **[6]**, **[9]**, **[52]**, **[55]**, **[59]**, **[61]**, **[65]**, **[69]**, **[74]**, **[75]**, **[93]**, **[100]**, **[124]**, Ernst directed several Ph. D. theses (Cayford, Cantor, Fraenkel, Gross, Hilliker, Sato, Senge, Wadleigh) on the arithmetic of analytic functions.

Throughout his life, Ernst's mathematical interests continued to expand enormously, and came to include geometry, convexity, combinatorics, group theory, and linear algebra among other things. He also tended increasingly to collaborate with other mathematicians, including P. Erdös, his close friend from Princeton days, and T. S. Motzkin, his teacher at the

Hebrew University and later his colleague at UCLA. Together with Erdös and others ([**78**], [**79**], [**80**], [**92**], [**128**]) he was one of the founders of Euclidean Ramsey theory, an exciting new field currently undergoing an explosion of activity. With Motzkin [**56**] he obtained some of the first results going beyond Turän's theorem on graphs with n vertices containing no complete subgraphs on k vertices. This was one of the seminal papers which came together to create the very active field of extremal graph theory.

Among many other striking results obtained by Ernst and his collaborators we mention two. In paper [**94**] it is proved that given two primes p, q, there are infinitely many integers n such that $\binom{2n}{n}$ is not divisible by p or q. In paper [**84**] it is proved that Euclidean n-space contains $n + 2$ points whose mutual distances are all odd integers if and only if $n \equiv 14 \pmod{16}$.

Ernst Straus was not only a great mathematician, but also a great human being. As Graham, Rothschild, and Spencer remark in their book Ramsey Theory, "his wisdom transcended the area of mathematics". His brilliance and enormous erudition in both humanities and science made a deep impression on all who were fortunate enough to know him. He could solve crossword puzzles in ink in English (his third language) using only the horizontal clues, and in the next minute discourse profoundly on relativity theory, European history, or theology. This intellectual power was combined with a deep and radiant humanity which made Ernst truly beloved by his colleagues, students, and friends. It was always a delight to visit his home, which was filled with mutually coexisting animals of all descriptions. It almost seemed that the animals had responded to his lifelong dedication to pacifism. Ernst worked tirelessly on behalf of men and women who were unjustly persecuted by their governments for speaking out in defense of freedom. He was extremely active in the anti-Vietnam war movement and, until the day before his death, he took an active part in efforts to bring about a nuclear freeze. Men of such great talent, uncompromising integrity, generosity, and gentleness are among the world's rarest and most precious treasures. Ernst will be sorely missed by the mathematical community and the larger community of mankind.

We are grateful to Moshe Goldberg for allowing us use of his corrected and updated version of Ernst Straus' publication list.

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PROFESSOR STRAUS' PH.D. STUDENTS

1958 Roy E. Wild, 8181 Ponsettia, Buena Park, CA 90620

1960 David G. Cantor, Mathematics Department, UCLA, Los Angeles, CA 90024

1961 Aviezri Fraenkel, Weizmann Institute of Science, Applied Mathematics Department, Rehovot, Israel

1961 Afton Cayford, University of British Columbia, Vancouver (V6T 1Y4), British Columbia, Canada

1962 Fred Gross, 1212 Noyes Drive, Silver Spring, MD 20910 (University of Maryland)

1963 Daihachiro Sato, University of Alberta, Edmonton, Alberta, Canada

1965 Hans Senge, University of Wisconsin, Madison, WI 53706

1965 Frances Wadleigh, address unknown

1965 David Hilliker, 2415 Fordham Drive, Costa Mesa, CA 92626

1966 Mary Schrot, Lawrence Livermore Labs, Berkeley, CA 94720

1966 John Ewell, Northern Illinois University, DeKalb, IL 60115

1967 Carl Dorn, 209 S. Oakhurst Drive, Beverly Hills, CA 90212 (Calif. State University, Long Beach)

1967 Joseph Motzkin, University of Lille, France

1967 Leon Neidleman, 1044 St. Joseph Avenue, Los Altos, CA 94022 (San Jose State University)

1971 Donald Krakowski, address unknown.

1971 John Kasdan, 250 E. 87 St. Apt. 23J, New York, NY 10028

1973 Demetrios Brizolis, California State Polytechnic University, Pomona, CA 91768

1973 Terry Gaddis, 3708 S. W. Austin Street, Seattle, WA 98126

1975 Bola Balogun, University of Ife, Ife, Nigeria

1975 Jon Sherman, 11736 Woodbine Street, Los Angeles, CA 90066

1975 Lesley O'Connor, University of Maryland (APO), New York, NY 09407

1978 Malcolm Soule, California State University, Northridge, CA 91330

1978 Krishnaswami Alladi, 27, Luz Church Road, Mylapore, Madras 600004, India