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Irving Kaplansky, 89, a Pioneer in Mathematical Exploration, Is Dead

By JEREMY PEARCE

Irving Kaplansky, a mathematician who broke ground in exploring concepts central to algebra and multiplication, died on June 25 at his home in the Los Angeles community of Sherman Oaks. He was 89.

The cause was respiratory failure, his family said.

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From 1945 to 1984, Dr. Kaplansky taught at the University of Chicago, where he joined his famous former teacher, Saunders Mac Lane, who worked on topology and category theory, an abstract branch of algebra with applications in computer science. Dr. Mac Lane died in 2005.

Dr. Kaplansky?s interests were similarly broad, and he explored the properties of groups of numbers called commutative groups, also known as Abelian groups, in which the order that a group?s members are multiplied does not affect their outcome.

He published ?Infinite Abelian Groups? (1954, 1969) and ?took a big step in showing how far you could go with infinite elements? that are commutative, said David Eisenbud, director of the Mathematics Sciences Research Institute in Berkeley, Calif. From 1984 to 1992, Dr. Kaplansky directed the institute.

J. Peter May, a former student of Dr. Kaplansky and a professor of mathematics at the University of Chicago, praised his ?exceedingly incisive mind that saw through to the essentials in mathematical arguments with precision and clarity.?

Dr. Kaplansky went on to write ?Commutative Rings? (1970), a work that Dr. Eisenbud said remained in use and was ?narrowly focused on its subject, a subject that, partly because of this book, has since gone much further.? Dr. Kaplansky later wrote about an area bridging algebra and topology, a field that involves the study of real or abstract spaces, in ?Lie Algebras and Locally Compact Groups? (1971).

A noted pianist, he also composed music, often on mathematical themes, and contributed to performances of Gilbert and Sullivan productions in Chicago.

Irving Kaplansky was born in Toronto. He received his bachelor?s and master?s degrees from the University of Toronto before earning a doctorate in mathematics from Harvard in 1941.

After early work at Columbia, Dr. Kaplansky moved to Chicago in 1945. He was named a professor of mathematics there in 1955, and a professor emeritus in 1984. He became an American citizen in the 1950?s.

Dr. Kaplansky was a member of the Institute for Advanced Study in Princeton, N.J., and was elected to the National Academy of Sciences in 1966. He also was president of the American Mathematical Society.

In 1989, the society awarded him its Leroy P. Steele Prize for Lifetime Achievement.

Dr. Kaplansky is survived by his wife of 55 years, the former Chellie Brenner.

He is also survived by a daughter, Lucy, a singer-songwriter, of Manhattan; two sons, Alex, of Hillsborough, N.J., and Steven, of Sherman Oaks; and two grandchildren.

As a musician entranced with the mathematical possibilities of music, Dr. Kaplansky once wrote a melody based on assigning notes to the first 14 decimal places of pi. Called ?A Song About Pi,?? it received lyrics in 1971 from a Chicago colleague, Enid Rieser, and has been sung by Dr. Kaplansky?s daughter in her act.

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