CENTREFOLD

Professor Bernhard Neumann

The Council of the New Zealand Mathematical Society congratulates Bernhard Neumann on the occasion of his eightieth birthday, 15 October 1989. Readers who know Bernhard well may not be surprised to learn that he celebrated it in style—by joining his wife Dorothea on an early morning flight over Canberra in a hot-air, balloon!

Bernhard Hermann Neumann was born in Berlin on 15 October 1909. After studying at the Herderschule in Berlin and at the University of Freiburg, he obtained his Dr.phil. degree from the University of Berlin in 1932. He emigrated to Britain in 1933 (during a time of political upheaval in Germany), and continued his studies at Cambridge, where he was awarded a Ph.D. in 1935. Meanwhile he became secretly engaged to Hanna von Caemmerer, who had been a fellow student in Berlin, and in 1938 she also left for Britain, where they married. At that time Bernhard held a temporary assistant lecturership at Cardiff, but at the beginning of the Second World War he was interned for some weeks (as an enemy alien); upon his release he joined the British Army, serving in the Intelligence Corps from 1940 to 1945. In 1946 he was appointed as a lecturer at the University of Hull, and in 1948 he accepted a position at the University of Manchester, where he stayed for the next thirteen years.

Hanna and Bernhard had five children: Irene, Peter, Barbara, Walter and Daniel. Hanna was able to complete her doctorate at the University of Oxford, and after the war she became an assistant lecturer at Hull, and later (in 1958) she too obtained a position in Manchester. During these years both Hanna and Bernhard established fine reputations as mathematicians, with common research interests in algebra. In particular, their joint paper with Graham Higman (published in 1949) on embedding theorems for groups is a famous one, underlying the theory of what are now known as HNN-extensions. Bernhard was awarded the Wiskundig Genootschap te Amsterdam Prize in 1949, and the Adams Prize of the University of Cambridge in 1952. He gained a D.Sc. from the University of Manchester in 1954 (and Hanna the same from the University of Oxford in 1955), and in 1959 he was elected a Fellow

of the Royal Society.

In 1962 Bernhard took up an invitation to set up a research department of mathematics in the Institute of Advanced Studies at the Australian National University. He was appointed as Professor and Head of the Department, and was also elected to a Fellowship of the Australian Academy of Science. Two years later Hanna became Professor and Head of the Department of Mathematics in the School of General Studies. In 1971, while on a lecture tour of Canada, Hanna became ill, and died shortly afterwards. Bernhard was re-married in 1973, to Dorothea Zeim, and since his retirement in 1974 they have continued living in Canberra, with Bernhard being made Emeritus Professor and Honorary Fellow of the A.N.U., and an Honorary Senior Research Fellow of the C.S.I.R.O. Division of Mathematics and Statistics.

Bernhard's contributions to the mathematical community during his long career are remarkable. He has published over 100 research papers, given supervision and valuable advice to numerous students and fellow workers, and lectured at many conferences and in universities all around the world. He served on the Council of the London Mathematical Society from 1954 to 1961, and was its Vice-President from 1957 to 1959. He also served on the Council of the Australian Mathematical Society for over 15 years, including three terms as its Vice-President and one term as its President (1964–66), and in 1969 he founded the *Bulletin of the Australian Mathematical Societ*}, acting as its Editor from then until 1979. Not surprisingly Bernhard is now an Honorary Life Member of that society. He was Foundation President of the Australian Association of Mathematics Teachers (from 1966 to 1968), Chairman of the National Committee for Mathematics of the Australian Academy of Science from 1966 to 1975, and a member of the Council of the A.A.S. from 1968 to 1971. Even following his retirement he has maintained a close association with organisations such as these, and with the Canberra Mathematical Association in particular, and he continues to serve the worldwide mathematical community with his regular edition of the *l.M.U. Canberra Circular*.

Here I would like to make special mention of the contributions Bernhard has made to the New Zealand mathematical scene. Along with Hanna he attended many of our annual Colloquia in the 1960's and early 1970's, and his suggestion that New Zealand mathematicians form a special geographical branch of the Australian Mathematical Society provided the catalyst for the formation in 1974 of the New Zealand Mathematical Society! In fact Bernhard became the Society's very first paid-up member, although very soon afterwards he was elected as an Honorary Life Member. Over the years he has continued his support, not only for the Society and for the Colloquium, but also in many ways for individuals and institutions in New Zealand. For example, he has often provided valuable assessment of candidates for university appointments, and his wish to maintain strong links between Australian and New Zealand mathematicians influenced the decision to hold the 25th Summer Research Institute of the Australian Mathematical Society at The University of Auckland in 1985. I personally owe Bernhard a great deal for the advice and encouragement he has given me.

Bernhard Neumann is a person who lives life to the full. Even at the age of 80 he may still be found riding his bicycle around the streets of Canberra, or out walking in the bush (and, at least once a year, up and down Pigeon House Mountain), or entertaining friends and family, enjoying a fine bottle of wine or playing some Haydn divertimenti, or sitting at his typewriter—or in the front row of a lecture! He is, and should remain, an inspiration for us all.

[Author's Note: I am grateful to Mike Newman and Joe Gani for permission to extract

biographical details from their article "Bernhard Neumann's 70th Birthday" which appeared in *Mathematical Scientist*, vol. 4 (1970), pp. 69–70. Much of Bernhard's research is documented in the six volumes of *Selected Works of B.H. Neumann and Hanna Neumann*, whose publication by the Charles Babbage Research Centre was reported in this Newsletter (No. 43), August 1988. The photograph (taken by Marie Colvill for A.N.U. Photo Services) was sent to me by Mike Newman at the request of Dorothea Neumann.]

Marston Conder