HANNA NEUMANN

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Hanna Neumann (née von Caemmerer) was born in Berlin in February 1914. Her father was a historian, but his family had strong military traditions, and he was killed in the first months of the 1914–1918 war. She was the youngest of three children, all of whom followed academic careers, her brother as Professor of International Law at Freiburg and her sister as a trainer of social workers in Berlin. Hanna herself remained in Berlin at school and at University, until 1938 when she left to marry Bernhard Neumann (Bernhard, as a Jew, had left Germany more hurriedly in 1934). The Neumann's believed very firmly in women, even married women, following their own careers. Hanna held posts in Hull University, in Manchester College of Technology (now UMIST) and of course, later at the Australian National University at Canberra. At times, this loyalty to principle required some sacrifices of personal convenience, since it was impossible to synchronize completely the careers of husband and wife. Bernhard and Hanna had five children including two who are mathematicians at University level. Hanna died while on a lecture tour of Canada in November 1971.

Mathematically, most of Hanna's life was devoted to group theory, particularly infinite group theory. Her thesis was a generalisation to free products with an amalgamation of Kurosh's theorem on the subgroups of free products. The generalisation was very far from routine, in that not only were the methods not directly generalisable, but the very formulation of the theorem required a much deeper investigation of the notion of a free product, and of the circumstance in which it was applicable, than had hitherto existed. Questions about the embeddability of amalgams of groups arose naturally from this work, and have occupied the attention of a number of people ever since. In later years she spent a good deal of effort on the formal development of the theory of varieties of groups. The Springer tract that she wrote both summed up progress to date and also stimulated a lot of further work. That the subject is now in rather a healthy state is mainly due to her influence. As the bibliography below indicates she was a good collaborator, and that not only with members of her own family. It is also true, though the evidence is not there on the surface, that she was unfailingly helpful, patient and stimulating both as a supervisor of students and as a research colleague.

For the details about her early life, I am indebted to her surviving family, and in particular to Peter Neumann.

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