

# LEONE MINNA BURTON

14.9.1936–1.12.2007

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On the 1st December, 2007, Leone Burton died in Cambridge, England, at the age of 71. Her son Mark and daughter-in-law Helen were with her. She had been struggling with cancer and a severe stroke. She was buried on 10th December at Barton Glebe, a woodland burial ground near to Cambridge. Following her death, in a message to a list of friends who had been following Leone's progress with her illness, Mark invited us to send 'stories' about Leone as a tribute to her. A flood of messages came in response from friends, colleagues and former students from around the world. To write our tribute to Leone in this piece, we have drawn extensively on these messages.

Mark had written "My mum was a very special woman in so many ways, and so very brave to the end." The messages reflected this 'special' nature. We extracted the nouns and adjectives used to describe Leone and filled a page. A simple grouping of these words and phrases characterizes Leone for us very effectively:

- Leone was a sensitive and caring friend, good company, generous, kind, warm, honest, wise and supportive.
- Leone was an inspiring doctoral supervisor offering encouragement, sound advice, excellent ideas, insightful intelligence and flexibility of thinking. She was also direct, questioning, challenging, demanding, deeply supportive and empowering, a wonderful role model.
- As a scholar, Leone was incisive, passionate, rigorous, principled, intellectually sharp, critical, strong, tough, feisty, daunting and straight to the point.
- Overall, she showed concern, conviction, taste, flexibility and courage.

So who was this remarkable woman?

Leone was born in Sydney, Australia. Her single name was Gold and her middle name was that of her maternal grandmother who left Lithuania for the UK in the early part of the 20th century.

She left Australia and travelled to the USA, making ends meet by giving talks about Australia. She moved to England 50 years ago where she married John Burton and settled on a farm in Kent where Mark was born. After some years Leone and John parted and Leone became a single mum, bringing Mark up in England on her own.

Leone's PhD thesis, dated 1980, was entitled "The impact of education on political development." In the thesis, Leone



Leone Burton and grandson in 2005. Photograph by Mark Burton.

reviewed historically the changing concept of political development and explored the interrelationship between professional development and education. She proposed a model of professional development based on 3 parameters: participation, social mobilisation and vulnerability. The model is used to examine educational experiences in Kenya and Tanzania. She acknowledged help from "the staff of the Department of Education in Developing Countries at the Institute of Education, University of London."

Leone worked at two institutions in London: the Polytechnic of the South Bank (now called London South Bank University); and Avery Hill college, now part of Greenwich University. At the Polytechnic she helped establish the first MSc in Mathematics Education in the UK. She "built up the mathematics department at Avery Hill through sheer force of personality and example" (Edith Jayne).

For some years Leone worked at the Centre for Mathematics Education at the Open University. John Mason writes, "Leone joined the OU to work on *Developing Mathematical Thinking* with Ann Floyd, Nick James and John Mason. It was extremely stimulating to find colleagues coming together from very different backgrounds but with nearly complete agreement on what would be most beneficial for teachers. John initiated an 'own thinks' section of each week's work for the students, and he and Leone decided that the best way to choose what to put into these sections was to write a book alongside the course: "*Thinking Mathematically* has been in print ever since, selling around 1000 copies annually."

In 1992, Leone moved to the University of Birmingham as Professor of Science and Mathematics Education. Over her years there, she built up a doctoral programme with stu-

dents studying largely at a distance and coming for three one-day workshops on Saturdays each year. In the last few years that group incorporated Steve's doctoral students and it will continue to meet as before.

When Leone retired from Birmingham she moved back to her house in London, a 16th century terraced cottage a stone's throw from Tower Bridge. She was given an honorary professorship at King's College, University of London where she contributed to seminars and courses and supervised doctoral students. In 2004 she moved to Cambridge, where she became a Visiting Fellow in the Faculty of Education. Tim Rowland writes, "Leone's contribution here included teaching, both undergraduates and graduate students. I think that we made Leone welcome, as 'one of us'. Leone seemed to appreciate that, but it was we, of course, who were the beneficiaries of her being part of our intellectual community."

Homerton College Cambridge was the intellectual home of Hilary Shuard. Tim Rowland reminisces further, "Hilary, of course, is strongly associated with this College and was a powerful presence. Both Leone and Hilary were strong women, each with huge respect for each other. But they didn't always see eye to eye. I like to think of them now, arguing in the Elysian fields, neither of them giving an inch!"

Leone's professional contribution was substantial in many fields and we can only refer to a few of these here. She had a lifelong passion for enabling all children to enjoy mathematical activities. She was one of the authors of *Thinking Mathematically*, referred to by John above, and her book *Thinking Things Through* continues to be bought and used by primary teachers. The last research project she was engaged on until her final illness was a return to investigate the state of mathematical problem solving in lower secondary schools in England, a project funded by the British Academy and undertaken with Steve Lerman, following years of government regulation in mathematics classrooms. Another lifelong passion was the study of gender, particularly in mathematics. She is considered to have played the major role in shifting teachers' perceptions in relation to girls and mathematics in the UK and other places around the world. Her final book was a major study of the experiences and opinions of a large sample of UK mathematicians. The community has still much to learn from those interviews.

Leone was an excellent doctoral supervisor, as can be read in the messages sent to Mark since Leone's death. Indeed she was an excellent support and adviser to many in the mathematics education community, whether her ex-students or colleagues, again as evidenced in the e-mail messages. She will be remembered with great affection and gratitude by all of those people, and that includes the two authors of this piece.

Leone loved to travel and visited most parts of the world as part of her professional life, often responding to invitations from colleagues in different parts of the world to give keynote lectures. Mary Coupland writes, "Leone was here in Australia giving a keynote address to a conference. I think I was giving her a lift to the conference but not attending it myself, and I noticed she had cartoon characters on her socks. As it was quite a big conference full of 'important' people, I plucked up the courage to comment on the socks, as I was a little surprised at her choice of footwear. She said something like this: 'Mary - today many people will be listening to me, and wearing ridiculous socks reminds me not to take myself too seriously!'"

Friends also talk fondly of holidays in places such as India, Morocco and Venice. Particularly Leone loved France where she owned a house as part of a communal group in Ferriere Larçon for many years. Those who shared the group of houses and those who visited her remember the peaceful serenity of the village, the careful tending of the garden with advice from Henri and Paul up the street, the barbecues (often with burnt offerings), trips to the Loire valley, and sincere welcome and friendship. After retirement, a holiday in Venice awakened in Leone a deep wish to rent a flat and live there for some months. Her friends were assured of their welcome. Sadly however illness prevented her achieving this desire.

Leone loved music. She performed on the cello, played the piano, and sang in choirs, "We valued her secure contribution to the alto section of the Hanover Choir." (Pat Taylor, Claire Adenis-Lamarre, Sheila Stacey). Cooking too was a great love, as was shopping for the food. Most of all, though, she loved to share meals with people, her "coriander relish" (Sally Despenser) and "her love of pumpkin in all forms" (Edith Jayne), and to serve guests with her food - a reminder of the Jewish mother syndrome!

Whatever tensions there were in Leone's relationships with some, they came from a strong-willed, principled, extremely able, honest, and very loving and caring woman, mother and booba (Yiddish for grandmother) as her three grandchildren called her. She will be sorely missed. A fund has been set up which will be used to support doctoral students in mathematics education, one of Leone's great loves. Cheques made out to BSRLM (British Society for Research in Learning Mathematics) can be sent to either of the authors of this piece (addresses on the Contributors page).

[Editor's Note: Leone Burton published three articles in For the Learning of Mathematics, all of which are available through the FLM web-site: <http://flm.educ.ualberta.ca/>]