



Brenda Milner, PhD

For nearly three decades, Dr. Brenda Milner worked with a patient affectionately known as "HM" who, after brain surgery, lost his ability to convert short-term memory into long-term memory. With meticulous experimentation, Milner discovered and demonstrated that the human brain has multiple memory systems that govern different functions, such as motor skills or language. Her pioneering work contributed to a greater understanding of how the brain works and she is considered to be one of the greatest neuroscientists of the 20th century.

Dr. Brenda (Langford) Milner received her MA from Cambridge University in 1949. Her main interest focused on experimental psychology. While still completing her MA, she moved to Canada in 1944 to join the Institut de Psychologie at the Université de Montréal. In 1950 she resumed her academic studies at the Montreal Neurological Institute (MNI) and McGill University. In 1952 she received a PhD for an investigation of the intellectual effects of temporal lobe damage in humans, under the supervision of Dr. Donald Hebb.

Continuing this work at MNI and as a Professor at McGill University alongside such luminaries as Dr. Wilder Penfield, Dr. Milner became one of the pioneers of the discipline of neuropsychology. Her detailed and methodical long term studies of patients before and after well documented brain excisions, particularly in epilepsy cases, have added substantially to the scientific understanding of the structure of the brain, especially the functions of the hippocampus and the temporal, frontal and parietal lobes in learning, memory and speech functions.

Dr. Milner has attracted many graduate students, many of whom later developed clinical neuropsychology units in university and teaching hospitals throughout Canada and the world. Dr. Milner's work has been widely recognized by her scientific peers through numerous awards, including the Wilder Penfield Prize for Biomedical Research from the Province of Quebec in 1993, and fellowships in the Royal Society of Canada and the Royal Society of London.

She has also been honored with several Honorary Degrees and was named Officer of the Order of Canada in 1984, and Officier de l'Ordre national du Québec in 1985. Dr. Milner has published over 100 papers and remains involved with many of the major neurological and psychological organizations. She maintains an enviable reputation as a distinguished lecturer in brain research as the first Dorothy Killam Professor of Neurology and Neurosurgery at MNI and McGill University.