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PREPARED & PRESENTED BY: G.H. Cumming

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BRO. Dr. FRANK HARLAND MILLS, AO, MD, FRCS.
(1910 - 2008)

Dr. Frank Harland Mills was not only one of the most outstanding surgeons Australia has produced but, as a pioneer in heart surgery, developed procedures that were adopted throughout the country, giving a chance of longer life to thousands of people.

Mills, who died at 97, also had a war record as distinguished as his friend and colleague Bro. Dr. Edward "Weary" Dunlop. In the prisoner-of-war camps in Borneo, he saved the lives of many soldiers through surgery skills and brilliant medical improvisations. Although he bore witness to terrible events, he also had time to think; Mills thought about such things as fixing hearts and lungs..

He first came to prominence in 1952, when he saved the life of the actress Megan Edwards. In the first operation of its kind in Australia, Mills removed a rib, and held her heart in one hand while he widened the vital tricuspid valve with a small blade attached to the tip of the forefinger of the other hand. Before this operation Mills had performed the first successful "blue baby" operation in Australia, at Royal Prince Alfred Hospital.

Born in Armidale to Percy Mills, a magistrate, and his wife, formerly Florence Brown, Frank grew up in Moruya, where he had a Tom Sawyer childhood, running free around the countryside. The freedom owed much to the fact that his father had four young children to bring up - Florence died when Frank was six.

Frank went from Moruya Public to Wollongong High School and the University of Sydney, where he topped his final year. He joined RPA in 1934 as a junior resident medical officer, became medical superintendent of Marrickville Hospital in 1937 and won a Walter and Eliza Hall fellowship to study thyroid diseases at the Royal College of Surgeons, London. He qualified as a fellow of the college in 1938, with Dunlop. The Leverhulme scholarship took him to Oxford University in 1939 when he became Hunterian Professor of the Royal College of Surgeons.

On the outbreak of World War II he enlisted in the AIF and, in 1941, sailed as a captain in the 2710 Australian General Hospital with the 8th Division for Malaya. After the fall of Singapore in 1942 Mills spent three months in Changi prison before being shipped to Sandakan, North Borneo, with 1500 other POWs.

In September 1943 about half the POWs were moved to Kuching. Mills tried to have himself included among those who stayed at Sandakan, but the Japanese refused. The Kuching prisoners escaped the notoriety of Sandakan - 1787 Australians and 641 British perished there, on the marches to Ranau, or at Ranau; only six survived.

As a POW, Mills performed surgery using sterilised razor blades and sewing with sterilised thread taken from his shirt. He identified a protein-rich plant that troops could boil for food. By pulverising and boiling clay, he produced a crude kaolin powder to treat tropical ulcers; peptic ulcers were treated with wood ash. At Kuching he teamed up with Dr. Marcus Clarke, who had been living in Borneo, and turned his mind to cardiac surgery techniques, pondering the possibility of an artificial heart.

Back in Australia he found surfing a great antidote for trauma. He also came to believe that swimming at Bondi helped explain his longevity - bacteria from the sewerage brought immunity. He was still surfing and driving a car into his 90s. Prison had also taught him about food - he created a vegetable garden at North Rocks and sent parcels to friends. This led to his being on the syndicate that established the Rothbury Estate vineyard and his work in the development of the Wollagorang Pastoral Company.

After the war, with his mind upon alleviating congenital heart disease suffering, he won a Carnegie Grant to study at John Hopkins Hospital in Baltimore. Home again, he carried out the first heart operations in Australia, including the blue baby operation. Developing many procedures of his own, Mills led hundreds of intricate heart operations. One, on the mitral valve, offered longer life to those who had rheumatic fever. Another was the replacement of the thoracic aorta by a human tissue graft. An appeal by Mills to the then NSW Premier, John Joseph Cahill, led to a revision of the law in respect to the use of human rather than animal tissue, opening the way for further grafting operations.

His work attracted the attention of the industrialist, Bro. Sir Edward Hallstrom, who endowed the Institute of Cardiology at RPA, where many new techniques were perfected. In 1955 Mills and Dr A.F. Grant performed what is thought to have been the first open-heart surgery in Australia, the repair of an atrial septal defect. In collaboration with the US doctors Henry Bahnson and Frank Spencer, Mills scored another first in Australia in 1957 by using an artificial heart machine. In the 1960s he turned his mind to cancer treatment.

His pre-eminence was recognised in Britain, the US and at home; he was made an Officer of the Order of Australia in 1990, and the University of Sydney made him an honorary Doctor of Medicine in 2005. He shunned the limelight and would never provide information for an entry in *Who's Who*, or similar publications. However he had an enormous influence on several generations of surgeons.

Frank Mills is survived by his wife, formerly Elayne Smith, his son, Jonathon, and daughter, Corinna. Jonathon, a former head of the Melbourne Festival, now directs the Edinburgh Festival. His choral work in 2005, *Sandakan Threnody*, won the Prix Italia.

Bro. Frank Harland Mills was made a Mason on 27 June 1935 in Lodge Prince Alfred No. 94. He was passed Fellowcraft on 26 September 1935 and raised a Master Mason on 27 February 1936. He called off on 25 January 1973.

REFERENCE:- Timelines, *The Sydney Morning Herald* - 18 April 2008.
John Farquharson and Tony Stephens.



Bro. Dr. Frank Harland Mills.