

Medical History Museum

Telling stories great and small

Jacqueline Healy

Two weeks before the opening in March of the exhibition *A med student's life*, I received a telephone call from a member of the public. She had heard Professor Mark Cook, Chair of Medicine at St Vincent's Hospital and Chair of the Medical History Museum Committee, speaking on radio about the 150th anniversary celebrations of the Melbourne Medical School. The caller wanted to share her family's story of the Spring brothers, who had attended Melbourne Medical School in the early 1900s. Their father was a schoolteacher and found the fees prohibitive, yet all four of his sons completed the course because the brothers who qualified first assisted the others financially. Subsequently, all their sons also completed medicine at Melbourne Medical School, and a medical dynasty was born. A picture of the Spring brothers is now on display in *A med student's life*, acknowledging the camaraderie of those brothers and their commitment to education and to each other.

The Medical History Museum is playing a key role in the 150th anniversary celebrations. In March a major publication, *Highlights of the collection, Medical History Museum*, was launched.¹ There are also two exhibitions: *A med student's life* and *The art of teaching: Models and*

method, exploring key aspects of university life. All these programs showcase the richness of the collection and bring to life its many stories.

Since its inception in 1967, the Medical History Museum has developed a diverse and varied collection encompassing documents, photographs, artefacts, ceremonial objects, medical and scientific equipment and associated research material. It has grown through gifts from graduates, families and institutions. While its core relates to the history of the Melbourne Medical School, the collection has expanded to encompass the history of medicine in Victoria, Australia and internationally.

The publication *Highlights of the collection* brings together 50 items from a collection consisting of over 6,000 pieces covering more than 400 years of western medical history. Some of the items celebrate major examples of human endeavour and scientific discovery. Others appear so mundane or ordinary that they might normally be overlooked. Yet their distinct provenances all enrich our knowledge. Leaders in medical and related disciplines were invited to write about these items from their own perspectives. It is these contributions that have given new

life and significance to the 50 items and reveal the great value of this collection. Four of these contributions are included in this magazine; they illustrate key aspects of the collection: photographs of Melbourne Medical School students, evidence of major Australian discoveries, and medical technology in the 19th century.

The year 2012 is of particular significance to women medical alumni. Women students were first admitted to the Melbourne Medical School in 1887. This was 25 years after the course was established in 1862 and 21 years before women in Victoria were eligible to vote. Dr Carolyn De Poi, a general practitioner from the Bogong region in Victoria, writes about a remarkable woman, Mary De Garis, who was the commanding officer of a field hospital in Serbia during World War I. At that time neither the Australian nor the British armed services would employ women doctors. Fourteen Australian women doctors (including De Garis) paid their own way to Europe to volunteer for service in hospitals on the front line. It was Mary De Garis's student notes, held in the Medical History Collection, that were the catalyst for the research conducted on her life, including her contribution to health services in Geelong on her return to Australia.

Below: Jacqueline Healy (ed.), *Highlights of the collection, Medical History Museum, University of Melbourne*, Medical History Museum, 2012

Opposite: Mary C. De Garis, Notebooks from clinical lectures for surgery and medicine, 1911, ink on paper and cardboard, 3 notebooks, each 16.6 x 10.8 x 0.5 cm. MHM02029, Medical History Museum, University of Melbourne

Other aspects of the collection provide evidence of major innovations. The fragile glass X-ray tubes developed by William Stone reveal the experimental work in the field of radiology undertaken at the University of Melbourne in the late 19th and early 20th centuries. William Hare, the first professor of radiology in Australia, provides insight into this research.

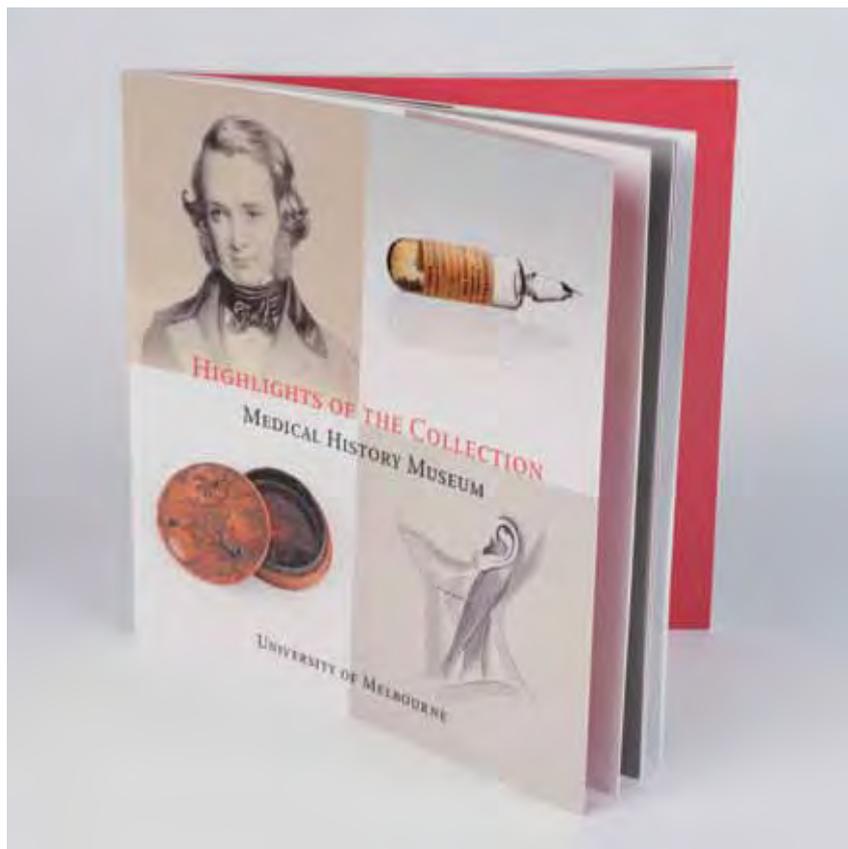
The Medical History Collection also holds the patient records kept by Dr John Cade when he was working at Bundoora Repatriation Hospital immediately after World War II. This research was the basis for his groundbreaking discovery of the effectiveness of lithium in the treatment of bipolar disorder. John Cade's son Jack gives a very personal account of his father's life and work.

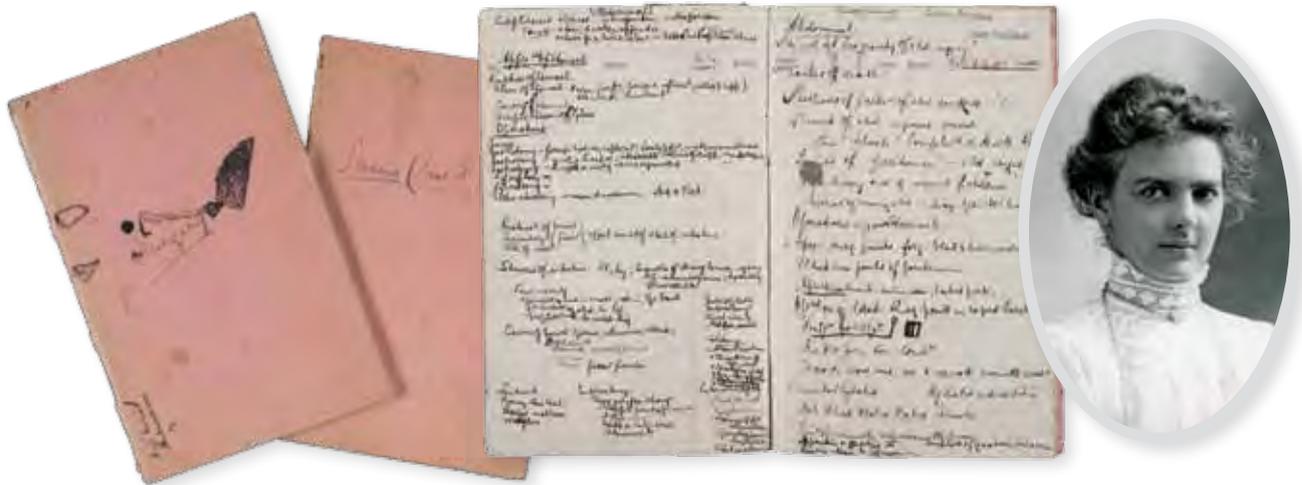
Finally, a universal symbol of medicine is the stethoscope. It is hard to imagine that the original stethoscope was ridiculed as an unnecessary invention. Professor Geoff McColl shares with us an exhortation from 1885: 'He that has ears to hear, let him use his ears and not a stethoscope'. This reminds us that all new things are scrutinised and viewed in the context of current norms.

I encourage you all to visit the Medical History Museum. We have painted the interior red, the emblematic colour of the Melbourne Medical School, to acknowledge that this is a year of celebrating the stories of medicine. It is a great introduction. We have plans to move the museum to a new location in

2013, where we will be able to tell so much more.

Dr Jacqueline Healy took up the position of Curator of the Medical History Museum in October 2011. Her previous roles include inaugural Director of the Bundoora Homestead Art Gallery, Director of the Museum and Art Gallery of the Northern Territory and Director of Public Programs at the National Gallery of Victoria.





An uncommonly varied and decidedly useful career

Carolyn De Poi

Mary Clementina De Garis was born in Charlton, Victoria, in 1881 and graduated MBBS Melb in 1904–05 and MD in 1907. She had an uncommonly varied and decidedly useful career, including resident at the Melbourne Hospital (1905–06); Women's Hospital (1906–07); resident surgeon, Muttaborra (1907–08) and Tibooburra (1911–14); Manor War Hospital, Epsom (1916); and the Scottish Women's Hospital Corps, Ostrovo, Serbia (1916–18). From 1919 she worked as a general practitioner in Geelong. De Garis wrote continually, publishing articles in medical journals and texts on obstetrics and economics. Despite all of this, there was no obituary in any medical journal.²

During World War I, the services of medical women were refused by the Army Medical Corps and Red Cross in Australia and New Zealand. This rejection and the move to France by her fiancé, Colin Gordon Thompson, motivated Mary De Garis to pay her own way to England and offer her medical skills to the war effort.

Thirteen other Australian women doctors did likewise. However, at that time the Royal Army Medical Corps and British Red Cross also refused to accept women, despite the fact that female nurses had worked successfully at the battlefield since the days of Florence Nightingale. Not to be thwarted, groups of women, many of them members of suffragist movements, became involved in voluntary medical services, particularly through organisations such as the Order of St John. Three organisations were founded and run entirely by women, one being the Scottish Women's Hospital, which became the largest British medical relief organisation after the Red Cross and St John's, sending 14 medical units to foreign soil. The Serbian unit moved to Ostrovo on 1 September 1916 and it was there that De Garis joined it. The unit worked near the Western Front, receiving many wounded from the Serbian army during its advance. From September 1916 to October 1919, 1,084 operations were performed at Ostrovo, many by De Garis. In September 1917 she became chief medical officer and the officer commanding. Upon her departure she was awarded the medal of the Order of St Sava, Third Class.

Dr Carolyn De Poi has worked in rural general practice in Beechworth since 1995. She is also a medical educator with Bogong Regional Training Network, involved in training general practice registrars and international medical graduates.

Stone's X-ray tubes

William Samuel Calhoun Hare

In 1895 Wilhelm Conrad Roentgen showed that, for 50 years, scientists using Crookes tubes to study electricity had been unknowingly producing penetrating X-rays with the potential to make photographs of the living skeleton. The glass Crookes tube contained two electrodes and when partially evacuated and a high voltage applied, a stream of particles (later called electrons) passed from one electrode (the cathode) to the other (the anode). Scientists were quick to apply this new information and they researched ways to optimise the quality of the X-rays emerging from their Crookes tubes in order to get better images.

In March 1896, just three months after Roentgen's discovery, Sir Thomas Ranken Lyle, professor of natural philosophy at this university, made a radiograph of the foot of his colleague Professor Orme Masson, probably the first of its kind in Australia. The collection of early X-ray tubes in the Medical

Opposite: Jean Cade, John F.J. Cade and dog 'Peter' at Bundoora Repatriation Hospital, 1948, photograph, 17.7 x 12.6 cm; John F.J. Cade, Patient record cards of lithium treatment, 1948–50, ink on paper, 17 cards, each 12.8 x 20.4 cm. MHM00991 and MHM00985, gift of Mrs John F.J. Cade, 1981, Medical History Museum, University of Melbourne

History Museum is largely the work of William Stone (1858–1949). Lyle and other early pioneers including F.J. Clendinnen, the first radiologist at the Melbourne Hospital, made their own tubes and probably also used tubes made by Stone, a name that has been largely overlooked. Stone was a friend of Lyle and was employed by the Victorian Railways (becoming chief electrical engineer in 1913). In 1903 he was appointed to the Faculty of Engineering of the University of Melbourne. In 1917, as one of the four members of the State Brown Coal Advisory Committee, he helped plan the establishment of a power station at Morwell, the forerunner of the Yallourn–Morwell electricity supply scheme.

The two tubes illustrated on the front cover of this magazine show the various modifications Stone made to the cathodes and anodes and to the shapes of his tubes. The quality of X-rays was influenced also by the extent of evacuation of the tube and Stone's notebook records instances of tubes rupturing as the vacuum was increased. His notes also suggest that he tested the rays by imaging his hands, presumably without serious effects as he lived to the age of 90. His involvement in other activities no doubt limited his risk.

Reference: Kenneth F. Russell, 'William Stone (1858–1949): A pioneer in Australian radiology', *Australasian Radiology*, vol. 19, no. 3, September 1975, pp. 216–22.

Professor Emeritus William Samuel Calhoun Hare AO was the first professor of radiology in Australia. He occupied the Edgar Rouse Chair in the Department of Radiology at the University of Melbourne from 1965 to 1988, and was a pioneer in the introduction of angiography.

Discovery of the use of lithium

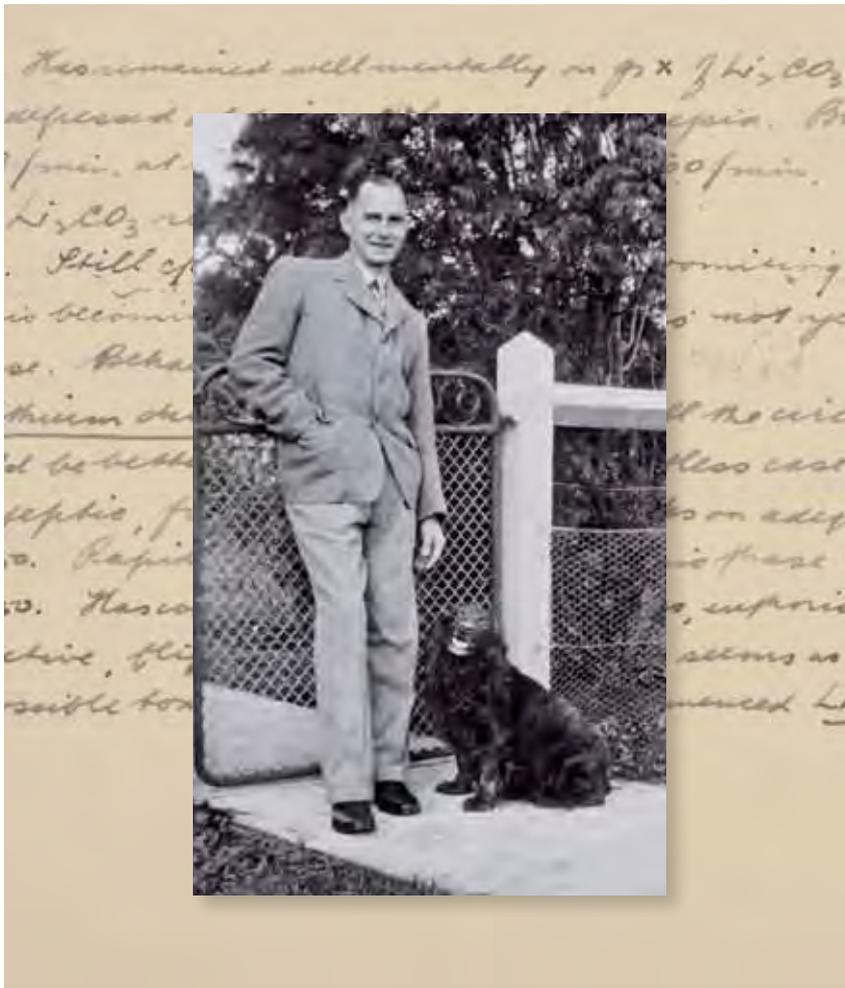
John F. Cade

After John Cade (1912–1980) graduated MBBS from the University of Melbourne and later obtained his Doctor of Medicine degree, he had his first experience in psychiatry in 1938, when he was appointed as the sole medical officer at the large Beechworth Lunatic Asylum, as it was then called. He was only 26 years old. In those days the large mental hospitals were primarily custodial institutions, as there was no effective therapy for most psychiatric illnesses. But Cade was shocked to discover the amount of previously unrecognised medical illness among the patients (such as hypothyroidism, scurvy and pellagra), and this reinforced his view of the holistic needs of the mentally ill.

In 1941, like his father a generation earlier, Cade left his young family in Australia to serve overseas

in a field ambulance in the Australian Army. The rapid Japanese advance in south-east Asia led to the prompt fall of Singapore, and like thousands of his army comrades he spent the rest of World War II interned in the notorious Changi prison camp. Cade survived as a walking skeleton of 40 kilograms, but he had lost none of his humanity. He returned to medical practice at Bundoora Repatriation Mental Hospital, to his beloved ex-diggers, where he sought to care for their physical and spiritual—as well as medical and psychiatric—wellbeing.

Cade's theory at this time on the possible aetiology of manic depressive illness and his discovery of lithium for its treatment are well known. After all, psychiatry, like all medical specialties, had to be founded on good clinical medicine, and the parallel of mania and depression with thyrotoxicosis and myxoedema struck him as compelling. His sequence of investigations followed the universal principles of good medical research: a well-considered theory, experimental study (in guinea pigs), imaginative follow-up of an unexpected finding, volunteer assessment of safety (in himself, to his wife's dismay), clinical evaluation in suitable patients (with meticulous records, as exemplified by those now in the Medical History



Collection), publication of the results in an appropriate journal and later collegiate and confirmatory research.

The photograph of Cade (above) is contemporaneous with his initial lithium work. It was taken at the front gate of his house in Bundoora by his wife, using their 1930s box brownie camera. He is accompanied by his faithful black cocker spaniel, Peter, but perhaps typically John Cade must have had the only cocker spaniel who was terrified of water.

Cade's discovery of the use of lithium in manic depressive illness is one of the great Aussie yarns. With typical modesty, he used to say that he was just an old prospector who put his hand into the barrel and happened to pull out a nugget. But his discovery was no fluke.

As Pasteur said, 'chance favours the prepared mind', and John Cade was a highly intelligent and well-trained doctor, with an insatiable curiosity about the natural world and an abiding love of humanity.

Cade's discovery ushered in the modern era of psychopharmacology in psychiatry. In just a few years, it was followed by the introduction of the first major tranquilliser (chlorpromazine) and by the tricyclic antidepressants. The building blocks of psychopharmacology for the three major psychoses were now in place, and the care of the mentally ill had been irrevocably changed.

To those closest to him, whether family, friends or colleagues, Cade was best known professionally as a

clinician, teacher and humanitarian, rather than as a researcher. He spent the last 25 years of his professional life as the busy superintendent of the Royal Park Psychiatric Hospital, where he was also dean of the clinical school and a professorial fellow at both Melbourne and Monash universities. As a clinician, for all those 25 years he personally saw every admission. As an undergraduate teacher, his regular Saturday morning lectures were fondly remembered by thousands of students from both Melbourne and Monash medical schools. It is said that as a postgraduate teacher he influenced a whole generation of future psychiatrists in Australia and New Zealand. Thus, treating patients, teaching both undergraduates and postgraduates, and caring for others were his life's work, and intellectual curiosity and the fruits of research were integral to these activities, rather than a field in their own right. It was moving to hear him, at the event held to mark his retirement, publicly thank his many patients for all they had taught him; clearly this is what underpinned his professional life.

Professor John F. (Jack) Cade AM, a son of J.F.J. Cade, is a specialist in intensive care and was for many years Director of Intensive Care at the Royal Melbourne Hospital.

Monaural stethoscope, 1885, wood, bakelite, 17.9 x diameter 6.9 cm. MHM00166, Medical History Museum, University of Melbourne

A simple invention

Geoff McColl

Listening to the sounds of the heart, lungs, bowel and blood vessels (auscultation) has been an essential part of medical diagnosis for hundreds of years. But until the invention of the stethoscope by René Laënnec in 1816, auscultation was performed by placing the ear directly on the chest wall, generally using a handkerchief against the skin.

Laënnec was a French physician, born in Quimper in 1781, who received his medical education from, among others, Jean-Nicolas Corvisart (Napoleon's physician), who had a great interest in physical diagnosis. In Laënnec's landmark treatise entitled *De l'auscultation médiate, ou, Traité du diagnostic des maladies des poumons et du cœur* (On mediate auscultation, or treatise on the diagnosis of the diseases of the lungs and heart) he described the use of a rolled-up piece of paper to listen to the heart of a young, overweight woman. He was inspired to use this simple device while watching children playing with a hollow stick in a park. Laënnec followed up on his use of the rolled paper by using his carpentry skills to build a hollow wooden cylinder, 25 centimetres in length and 2.5 centimetres in diameter, which

he named a stethoscope (from the Greek *stethos* meaning chest and *skopos* meaning observer). He presented his findings on the clinical use of the stethoscope to the Académie de Médecine in 1818 and published his treatise a year later. Like many advances in medicine, his invention was initially met with some scepticism, with one professor of medicine stating in 1885: 'He that has ears to hear, let him use his ears and not a stethoscope'.

This example (illustrated right) is a Priory stethoscope, one of many variations made on Laënnec's original design. Eventually this monaural version was supplanted by the more flexible and effective binaural stethoscope, which is still in use today and remains a symbol of the profession.

References: J.R. Scherer, 'Before cardiac MRI: Rene Laennec (1781–1826) and the invention of the stethoscope', *Cardiology Journal*, vol. 14, no. 5, 2007, pp. 518–19; A. Fayssoil, 'René Laennec (1781–1826) and the invention of the stethoscope', *American Journal of Cardiology*, vol. 104, no. 5, 1 September 2009, pp. 743–4.

Professor Geoff McColl is Professor of Medical Education and Training and Director of the Medical Education Unit in the Melbourne Medical School. He is currently leading the development and implementation of the new Doctor of Medicine program.



The Medical History Museum is located on the second floor of the Brownless Biomedical Library on the Parkville campus. The current exhibition, *A med student's life*, runs until 24 August 2012. Two further anniversary exhibitions on the theme *A body of knowledge* will be staged across three venues—the Medical History Museum, Baillieu Library and Ian Potter Museum of Art—between September 2012 and February 2013. For details see www.medicine150.mdhs.unimelb.edu.au/events/expos.

- 1 Jacqueline Healy (ed.), *Highlights of the collection, Medical History Museum, University of Melbourne*, Medical History Museum, 2012. The book may be purchased online at www.medicine150.mdhs.unimelb.edu.au/event/highlights-collection-medical-history-museum.
- 2 Edited extract from Harold Attwood, 'Mary Clementina De Garis (1881–1963)', *Chiron*, 1990, pp. 50–5.