Geological Society of Australia
Earth Science Showcase

Tuesday 9 June 2009

E.F. Pigot — the priest who knew about earthquakes

He was a doctor, a priest, a medical missionary in China, a pianist who once impressed a famous composer with his musical skills, and a Hollywood tragic who was intent on meeting Charlie Chaplin—but in the early 1900s, E.F. Pigot was best known as one of Australia's (and the world's) foremost experts on earthquakes, according to a member of the Geological Society of Australia (GSA), Dr David Branagan, who has been researching his life.

"If ever there was a man with a thousand interests and a thousand talents, it was Edward Francis Pigot SJ" said Dr Branagan, speaking as part of the Geological Society of Australia's *Earth Science Showcase*.

"Born in 1858, Pigot went on to study arts and medicine in Dublin before becoming a general practitioner. But the priesthood called and, at the age of 40, he was ordained as a Jesuit priest.

"Pigot's study for priesthood gave him enormous exposure to research that the Jesuits were undertaking in astronomy, seismology and meteorology, and he ended up travelling to Jesuit observatories in many countries to study major earthquakes that had occurred around the globe in the early 1900s.

"It was largely Pigot's push and expertise that convinced the Jesuits to set up a seismological observatory at the Riverview College in Sydney to add to their widely respected worldwide chain. Pigot got the job of Director and remained in that position for 24 years until he died at age 74. For much of that time he also provided medical care to students and staff at the College.

"Riverview Observatory was one of the first seismological observatories to be built in Australia and until recently it was Australia's principal seismological station. Even to this day, it is still a working observatory and part of the Bureau of Meteorology's network of stations.

"From its earliest days, the Riverview Observatory began issuing press releases about the hundreds of earthquakes it monitored across the globe and across Australia—and the Observatory was centre-stage when the devastating Kanto Earthquake of 1923 destroyed much of Tokyo, killing around 140,000 people and leaving 1.9 million people homeless.

"Ironically, the earthquake occurred during one of the most prestigious scientific meetings ever held in Australia, the second Pan-Pacific Scientific Congress. The eminent Japanese seismologist, Professor Fusakichi Omori, was amongst a group of scientists with Pigot at the Riverview Observatory when its seismometers started picking up the earthquake. Pigot pinpointed the location of the earthquake within minutes.

"While Pigot's work at the Observatory centred on seismology and earth deformation, he also undertook research into ground-breaking things like wireless transmission.

continued next page/

“But Pigot was not only a man of science. For example, he was a highly-skilled pianist—when young he practised up to eight hours each day, and on a study trip to Geneva as a boy he had played for the famous pianist and composer, Franz Lizst, who had been very impressed with his talent.

“Pigot also had a penchant for Hollywood. A paragraph in the *Los Angeles Times* on 2 September 1919, headed ‘Famous Astronomer to Study Film Star’, commented on Pigot’s first visit to America and stated that ‘apart from visiting the Mt. Wilson Observatory he will not go home content without seeing Charlie Chaplin, whose pictures are his pet relaxation when astronomical science proves too exacting for his tired brain.’

“Pigot also had a wry sense of humour—once responding to a reporter who had asked ‘is it a decent earthquake?’, Pigot replied ‘It is an earth disturbance of considerable magnitude, but I am sorry I know nothing of its morals’!

“Despite the obvious joy he had as Director of Riverview Observatory, it was not without its challenges. He constantly had to beg for funds to keep the Observatory operating and in 1910 even wrote to his superior in Ireland asking for help, ‘even a typewriter’. The introduction of a tram service to nearby Lane Cove (and its network of iron rails and metal cables) even had an impact—it generated local magnetism that prevented the Observatory from using sensitive instruments to study terrestrial magnetism—at the time a cutting-edge area of science that Pigot desperately wanted to research.

“Additionally, despite Pigot being keen for the Observatory to get heavily involved in studying astronomy, the lack of funding for good telescopes meant that—despite his expertise in this field and the opportunities made possible by the Southern Hemisphere’s night sky—such research had to be deferred.

“Pigot, however, participated in some interesting experiments outside his work with the Observatory.

“In 1910 he was invited to join a short expedition to South Bruny Island, Tasmania, to study a solar eclipse by the moon (with Halley’s Comet also likely to be observed). Sadly the whole event proved a disaster, with heavy cloud and mist on Mount Wellington and then heavy rain around Hobart and the surrounding region ruining the opportunity to study the eclipse. (Subsequent expeditions to other locations to study other phenomena were more successful).

“Pigot was also involved in innovative experiments at Burrinjuck Dam in southern NSW and at Cobar in north-west NSW. The Burrinjuck experiment comprised the drilling of three tunnels into nearby rock to hold scientific equipment to measure what impact the pressure caused by the construction and filling of a large dam might have on underlying geology. The 12 year project uncovered a range of interesting findings.

“Unfortunately, similar plans to work with his good friend, John Bradfield (the designer of the Sydney Harbour Bridge), to test the pressure being imposed by the Bridge on underlying rock at Milson’s Point were curtailed by Pigot's death in 1929.

“The experiment at Cobar was designed to study the deformation of the Earth caused by earth tides (these are ‘waves’ in the crust of the Earth caused by lunar forces similar to those which form ocean tides). The Great Cobar Mine (a gold and copper mine) was chosen as the best site for the experiment, however things were doomed from the start. When Pigot made his first trip to Cobar in 1913, his absence apparently caused difficulties for the Riverview College Choir! That notwithstanding, a financial failure at the mining company’s headquarters in London saw the mine being closed and then re-opened, before being flooded by torrential rains and later closed permanently. A second mine was found nearby but it caught fire and had to be sealed with the scientific instruments left in it. When the mine was reopened the fire took hold again and burned for another 16 years—the instruments had to be abandoned.

“Pigot even used the famous Queen Victoria Building in Sydney for one of his experiments. From the dome of the Building, Pigot hung a huge pendulum to assess the direction of its swing and hence the rotation of the

continued next page/

Earth Science Showcase is a fortnightly information service of the Geological Society of Australia.
Media interested in receiving Showcase media releases should email patgdaley@optusnet.com.au.
Others interested in receiving Showcase media releases should email mediasubscribe@gsa.org.au.
Find more information on Earth Science at www.gsa.org.au.
‘A career in Earth Science — a world of possibility’.

Earth, in order to verify the findings of a similar experiment that had been undertaken by others in the Northern Hemisphere. The experiments were mostly carried out at night to avoid public interference, although on several occasions there were crowds of invited guests.

“Medical problems were to hound Pigot throughout his life, arising with the onslaught of tuberculosis soon after he took up the priesthood. His ill-health saw him move away from work as a medical missionary and into science—and the search for a more suitable climate also made Australia a better location for him.

“Ironically, it was Pigot’s passion for his work that led to his death. He had been on a trip to Mt. Canobolas, near Orange in NSW, assessing its suitability for solar radiation research (the hope being that this research could lead to accurate long-range weather forecasting, at that time an unachieved goal that could greatly assist farmers with crop planting).

“While on Mt. Canobolas, the weather was not good and Pigot returned to Riverview very ill. He died of pneumonia on the morning of 22 May 1929 in a hospital at Crows Nest, bringing to an end a remarkable life.”

E. F. Pigot is buried in the Society of Jesus grave at Gore Hill Cemetery, Sydney.

Available for interview:
Dr David Branagan (photos are also available of both Dr Branagan and E. F. Pigot).

Also available for interview:
GSA Executive Members who can speak about Earth Science in general and the wide variety of exciting career paths it can offer.

Media contact:
Patrick Daley, Patrick Daley PR, tel: 0408 004 890.

Important request to media
The Geological Society of Australia is seeking to promote Earth Science and careers in Earth Science to the Australian public and most importantly students. Please assist us to do this by mentioning in any interviews or articles that this story is part of the Geological Society of Australia’s *Earth Science Showcase*. Members of the public interested in subscribing to this free service to receive regular media releases on Earth Science research can do so by emailing mediasubscribe@gsa.org.au with the following details: preferred email address, name, state, age (optional), organisation (if any) and phone number (to assist with clarification of email details if required). Please also mention that the Society’s website, www.gsa.org.au, is a good source of information on Earth Science.
