

The fight to resurrect Rutherford's mana in New Zealand¹

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Did I win the fight?

Sadly, no. I won some battles but lost the war.

To disbelieving scientists, I need to explain this statement.

There have been two History of New Zealand Science Conferences, in 1983 and 2015. Apparently I am the only person who attended both. In 1983 my talk was 'Researching the life of Earnest Rutherford'. In 2015 it was 'The fight to resurrect Rutherford's mana in New Zealand.' This account gives my experiences in-between.

Although a Canterbury graduate and long-serving academic, I first became interested in Rutherford by accident. Because I had an interest in marine archaeology, which was as close to the history of science as anyone got in those days, in 1977 I was invited to join a committee to set up the first Rutherford Den. That opened my eyes to the startling fact that, at that time, New Zealand could not give an accurate account of its internationally most famous son.

Some examples:

In case you think there is a spelling mistake in the 1983 title, that is how his Dad officially registered him in New Zealand's register of Births. Ern never knew of the official spelling until he applied for a passport when leaving New Zealand in 1895 at age 23, with three degrees from the University of New Zealand and two years of research at the forefront of the electrical technology of the day. He was a skilled researcher before he left.

The University of Canterbury couldn't give the correct dates of Rutherford's attendance. A Prime Minister of New Zealand stated that Rutherford won the Nobel Prize for splitting the atom, a common misconception in New Zealand. (That discovery came a decade after he received the Nobel Prize for explaining radioactivity as natural transmutation of atoms.) Rutherford's first year of research in New Zealand is covered in his second research paper. A science reporter, on being moved by a new discovery, wrote that 'Lord Rutherford may have felt as I did when he split the atom in his Christchurch Den.' (Rutherford

left New Zealand in 1895, months before radioactivity was discovered, and decades before being raised to the peerage.)

Few people address him correctly. When raised to the peerage Sir Ernest Rutherford became Ernest, Lord Rutherford. The incorrect form, Lord Ernest Rutherford, is rife still, in New Zealand plus at the BBC and other media outlets that once had standards.

Rutherford died late in 1937 so, because of the intervening war, memorials were not initiated until the mid-fifties. The Royal Society then initiated fundraising in the UK, New Zealand, Canada, Australia (where Mark Oliphant was a powerful figure) and India (Rutherford was scheduled to be joint-President of a joint meeting of the British Association for the Advancement of Science and the Indian Science Congress – to mark its silver jubilee – but died five weeks before he was due to board ship). To initiate the fundraising in New Zealand a bronze plaque was put up outside the basement den in which Rutherford had worked at Canterbury College. That plaque had three errors.

Electricity Corporation of New Zealand² were proud of their framed oil painting of Lord Rutherford, which had been given to them by one arm of the Rutherford family and hung in pride of place outside the CEO's office in their headquarters, Rutherford House in Wellington. Until I had to point out that it was a portrait of the curator of the Otago Museum and was merely a ripped-out frontispiece from one of his botany books.

Over the decades I have won some battles. For example, prior to the 1980s, New Zealand always used an image of Rutherford as an old man, using the RSNZ's copy of the Royal Society's Birley oil painting of a portly lord who wore a truss and

¹This is an expanded and edited version of the talk that John Campbell gave to the second History of New Zealand Science conference in Wellington, November 2015.

²The Electricity Corporation of New Zealand Ltd (ECNZ) is a New Zealand State-owned enterprise (SOE) formed on 1 April 1987, as a transition entity in the process of deregulating the New Zealand electricity market. Most of ECNZ's remaining liabilities were resolved in the late 2000s, and ECNZ is now a residual entity with the sole remaining task of winding up a series of land title issues.

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See also www.phys.canterbury.ac.nz/people/campbell



Dr John Campbell, a retired physicist at the University of Canterbury, is the author of *Shipwrecks of the Chatham Islands*, *Rutherford's Ancestors*, *Rutherford Scientist Supreme*, and www.rutherford.org.nz and is the producer of the 3-hour documentary *Rutherford*. John was the initiator and organiser of the 'Ask-A-Scientist' programme (questions@ask-a-scientist.net). He was also the convenor and fundraiser for the Rutherford Birthplace (Brightwater) and the Pickering/Rutherford/Havelock memorial (Havelock). The Canadian Nuclear Society awarded him their 2012 Education Award for the documentary.

The 1992 New Zealand \$100 note, featuring a younger Rutherford.



was within a couple of years of dying. This was used for the 1971 Rutherford stamps, the RSNZ's 1971 Rutherford centennial commemorative medal and subsequently its New Zealand Science and Technology Medal (later the Rutherford Medal). No New Zealand schoolchild could identify with such an old fart. I started ensuring that nowadays Rutherford is portrayed as a young, vigorous, researcher at the height of his powers, by ensuring all my writings on Rutherford (book, website, DVD, newspaper, magazine and research papers) are illustrated with, for example, the Canadian watercolour portrait of 1907. For the 1992 NZ\$100 banknote the Reserve Bank insisted on only studio photographs. So I supplied a 1914 photo, taken after he had discovered the nuclear structure of atoms and was knighted and before becoming the world's first successful alchemist.

I have had several skirmishes that made no substantial gain. For example, in 2000 I was phoned by an Auckland reporter for my comment on a claim by an American author that 'with women Rutherford was bluff and pretty much a thug.' I explained why that was bullshit but the headline used (*Weekend Herald* 6 Jan 2001) was 'Scientist hero a sexist thug.' I was incensed enough to get four other Rutherford scholars in the UK, Canada, and USA to join me in a letter of refutation (see www.rutherford.org.nz under Sponsors and Miscellaneous – Rutherford Mythology).

Other skirmishes include pointing out that the official biography of Rutherford, written just after his death by an old colleague from Canada, A.S. Eve, has, in its first paragraph of nine lines, seven errors or points that need further explanation. One error has the Rutherford family arriving in New Zealand on a ship seven years before it was built. Yet authors still repeat this mistake (e.g. Reeves 2008 biography of Rutherford *A Force of Nature*) because they refer to the 'official' 1939 biography of Rutherford, rather than myself, who sought original archives.

Such skirmishes lead to some wins, when future authors take note, and some losses, when they don't. One example was a 1991 book *Rutherford – The Early Years* which chose as an illustration for his parents a portrait from the Nelson Provincial Museum labelled Mr and Mrs Rutherford. It is of two Rutherfords who are no relation to Ern, as would be evident to anyone who had studied photographs of Ern's family. Though I pointed this out in my website (in Myths and also in Books) it was used again in a 2000 book.

In the 1970s, overseas scientists seeking Rutherford's birthplace were taken to the backyard of an old house in rural

Nelson and shown the pig pen. Its previous occupier, his father's dilapidated house, had been pulled down c. 1921. In 1987, the 50th anniversary of Rutherford's death, I visited the site of his birth. It was a national disgrace, then serving as a site to store council roading shingle. \$500,000 later, in 1991, it became a suitable roadside shrine which is open all hours.

After a quarter of a century of research, my book allowed New Zealand to have the correct and fullish story of Rutherford. After approaching many publishers, I published it myself. New Zealand didn't want it (too much science) nor overseas (too much New Zealand). A sponsor of most of my Rutherford Projects, the Stout Trust, donated a copy to the library of every secondary and intermediate school in New Zealand.

For material extraneous to the book I set up www.rutherford.org.nz. (For the oddities, see the Miscellaneous section.) Through it I sometimes assist American children with their homework. Those helped include oddities such as 'What were his favourite foods?' (Scones dripping with butter was one that came to mind.) 'Did Rutherford discover anything on Halloween?' (Not that I know of.) Those guided to the right educational path included 'Our homework assignment is due in this Friday. Please send 3000 words on Rutherford.' (I probably missed a nice little earner there.)

In 2005 I visited the BBC. It would be appropriate to produce the first ever documentary of Rutherford in time for the centennial of his Nobel Prize (2008). I had previously approached other countries hoping for an NZ–Canada–UK cooperative. The young BBC producer delegated to take me to lunch and explain



The Rutherford Origin, Brightwater, Nelson. Opened 1991.

**The Pickering/Rutherford/Havelock Memorial,
Havelock, Marlborough Sounds.**

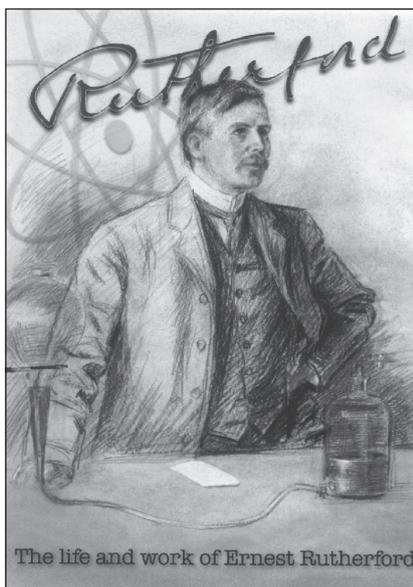
Opened 2003.

the facts of TV life bemoaned that the only programmes they could get funding for were large costume dramas and reality TV. That was the moment I merely said, 'Bugger them. I'll do it myself.' With patronage of \$50,000 each from 7 organisations (of the 83 approached) in 3 countries (of 7 approached), we now have a 3 hour (3-episode) documentary. (A 7-minute trailer can be seen at the Rutherford website under DVD/Books.)

With the documentary I kept reasonable control, so the science was in. That educational version was given to the library of every secondary school in New Zealand. The director, Gillian Ashurst, did a great job. She entered it for the NZ Film Festival. If accepted, that would mean money for her to re-edit a shorter (film) version for international film festivals. 'Great', said the New Zealand people. 'We want it to open the festival in Nelson and Christchurch, but the other centres won't be interested in it.' So it never appeared in any film festivals.

She also offered it to TV. I won't write down my subsequent views on them, as this is a family magazine. One channel took three months before someone didn't get around to viewing it. However, with the large turnover of personnel in the TV world, perhaps it's time I should approach them again..

In 1995, the centennial of Rutherford leaving New Zealand, I was in the UK, so I contacted TVNZ's representative there, filled him in on Rutherford's international importance, showed the TV crew around the Rutherford things at the Cavendish Laboratory, discussed the transition from Rutherford's research in New Zealand to his Cavendish researches, and arranged for the reporter to interview a prominent English physicist about nuclear physics since Rutherford's day. In travelling around with the reporter I kept emphasising to him how mythology was rife concerning Rutherford, and that, especially, every TVNZ mention of him was usually illustrated by an exploding nuclear bomb and I specifically requested that he didn't repeat such nonsense. When the item was edited and broadcast, the main clip of the prominent nuclear physicist was him stumbling for words when floored to comment along the lines, 'what would Rutherford think of the nuclear bomb?'



**Cover of Rutherford
DVD, showing 1907
portrait.**



And of course it opened with images of a nuclear explosion. The only satisfaction I had in this sorry affair was in sending the reporter the rudest email I have ever sent in my life.

Associating Rutherford with the nuclear bomb is a peculiarly New Zealand thing. No one overseas does. I first struck this in 1979 when interviewing all 32 of his then living nephews and nieces. All but one were extremely pleasant and helpful, the one being an ex-vicar who never allowed me over his threshold on a cold winter's night. He wanted nothing to do with his uncle who was the one who invented the bomb. I was flabbergasted. As a scientist I had never heard of this being laid on Rutherford, who died two years before the efficient extraction of energy from the nucleus was discovered. But I found it was a common myth in New Zealand amongst non-scientists. And I traced its origins, to good-old New Zealand clinging to the coattails of fame at the end of World War 2. (For a full account see the 'How Myths are Created' section of the epilogue of my book *Rutherford Scientist Supreme*.)

As for winning some battles but losing the war, I am afraid it is so. A week before my 2015 talk there was a discussion on Radio New Zealand along the lines of how academics are not valued compared to others. A women listener emailed or texted in, and had her comment read on air without comment. From memory it was 'Our banknotes only have one academic on them, and he tried to kill us all.'

I rest my case.

Bibliography

- Campbell, J.A. 1993. www.rutherford.org.nz
- Campbell, J.A. 1996. *Rutherford's Ancestors*. Ask-A-Scientist Publications.
- Campbell, J.A. 1999. *Rutherford Scientist Supreme*. Ask-A-Scientist Publications.
- Campbell, J.A. 1992. Banking on Rutherford. *New Zealand Science Teacher* 71: 21–23 (also 1993. *Australian and New Zealand Physicist* 30(3): 36–37).
- Campbell, J.A. 1995. The Rutherford Birthplace. *Australian and New Zealand Physicist* 32(6): 109–110 (also *New Zealand Science Teacher* 77: 40–41, and 1995. *Chemistry in New Zealand* 59(1): 26–27.)
- Clare, J. 2014. DVD review: Gillian Ashurst and John Cambell: Rutherford, the Life and Work, on DVD. *New Zealand Science Review* 71(2): 45–46.