

The 'Two Lucys': The Collaborative Work of Lucy Moore and Lucy Cranwell, 1928-1938

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The scientific apprenticeships of botanists Lucy Moore and Lucy Cranwell took place between 1928 and 1938. Moore described these busy times as their 'rucksack botany days... filled with high adventures, exciting discoveries, lovely places, amusing incidents and meetings with famous men and women'.¹ This essay is a closer look at shared adventures, discoveries and friendships that characterised this phase of their long and celebrated careers. It reveals something of science education in the 1920s, job opportunities in the biological sciences in the 1930s, and links between local and international researchers.

Both Lucy Beatrice Moore (1906-1987) and Lucy May Cranwell Smith (1907-2000) grew up in small communities near Auckland. Harry and Janet Moore and their eight children lived on an orchard at Warkworth. Benjamin and Marion Cranwell and their five children lived in Henderson to the west of Auckland. This meant that the bush, creeks, and seashore were always close by to explore. It was her 'good fortune', Moore believed, 'to grow up in the country where it was taken for granted that we should be interested in the bush and all its inhabitants'.² The two families valued natural history and horticultural knowledge, as well as literature and the literary arts. Each girl attended her local primary school, Warkworth Primary School for Moore, and Henderson School for Cranwell.

Because options for further education in their home districts were limited, both girls completed their secondary schooling at Epsom Girls' Grammar School in Auckland. Moore attended from 1920 to 1924 and Cranwell from 1921 to 1924. Lucy Moore boarded in Auckland with an aunt, but Cranwell was able to travel daily by suburban train from Henderson to Epsom. Epsom Girls' Grammar was a relatively new school, having opened in 1917 to absorb students from the overcrowded Auckland Girl's Grammar School.³

Pupils at Epsom Girls' Grammar during the 1920s received a thorough education, although science was only a minor part of the curriculum. All girls at the school took French and Mathematics, and Latin was compulsory for those wanting to sit University Entrance examinations. Home Science and Hygiene were the only science subjects taught at a junior level. This was in accordance with the Free Place Regulations of 1917, which compelled girls' schools to teach Home Science

for one and a half hours to all first and second year students. At Epsom Girls' Grammar the most able fourth form class supplemented Home Science with half an hour of Hygiene.⁴ Moore's class also began Botany lessons in the fourth form. In the fifth form Home Science could be dropped altogether in favour of Botany. Sixth formers were also offered Heat.



*Epsom Girls' Grammar School Cricket Team, 1924.
Lucy Cranwell is second from left in the back row.*

Botany was taught by Miss Bessie Battersby who had received the Senior University Scholarship for Botany in 1917 and an MSc with Honours in Botany in 1918. The school's Headmistress, Miss A. C. Morrison – herself an Honours Mathematics graduate – regarded Miss Battersby as the best science teacher in the school.⁵

Moore excelled academically and was described by a friend as 'a brilliant student, keen, hardworking and conscientious'.⁶

¹Lucy Moore (1986), 'Lucy Cranwell Lecture', *Auckland Botanical Society Newsletter*, 41, p. 32.

²Lucy Moore to Yvonne Lorimer, 26 May 1975, in Lucy Moore Papers, MS 90/55, box 23, older 140, Auckland War Memorial Museum Library (hereafter LBM).

³Sources of biographical information used throughout this essay are: John Morton, (2000), 'Lucy Beatrice Moore' in Claudia Orange, ed., *Dictionary of New Zealand Biography*, 5, pp. 355-6; Eric Godley (1988), 'Lucy Beatrice Moore. MBE, MSc, DSc (Cantuar), FLS 1906-1987', *Proceedings of the Royal Society of New Zealand*, 116, pp. 44-60; Ewan Cameron (2000), 'Lucy May Cranwell, MA, DSc, DSc(Hon), FLS(Lon.), FRSNZ (1907-2000)', *New Zealand Journal of Botany*, 38, pp. 527-535; and A.D. Thompson (2000), *Lucy May Cranwell Smith. MA, DSc, DSc(Hons), FLS, FRSNZ, 1907-2000*, [Christchurch].

⁴Ruth Fry (1988), 'The Curriculum and Girls' Secondary Schooling 1880-1992', in Sue Middleton, ed., *Women and Education in Aotearoa*, Wellington, p. 38.



*Epsom Girls' Grammar School Prefects, 1924.
Lucy Moore is second from right in the back row.*

In 1924 she was made a prefect. At the end of the year she came first in languages (covering English, Latin, Roman History and French), first in Mathematics and Science (that is, Mathematics, Heat and Botany) and first in the class. In University Scholarship examinations, Moore went on to gain the country's top mark in botany and a Junior Scholarship which covered the cost of tuition at University. Lucy Cranwell was known as an 'all-rounder'. She was a champion swimmer and represented the school in cricket. She won prizes for essays and drawing but did not match Moore's reputation as a top Botany student.

Moore and Cranwell met when they commenced full-time studies at Auckland University College (AUC) in 1925. A lectureship in journalism had been established at the College in 1924 and at first Cranwell was intent on a journalistic career. However, Alan Mulgan, the lecturer and a writer for the *Auckland Star*, told her that 'there was no room for women' in the profession. Cranwell was also dissuaded from taking up forestry, another appealing new subject, by W. R. McGregor, who was both forestry lecturer and zoology assistant. Cranwell's interests were diverse. Her completed BA degree finally comprised three years of English and Botany, with French and Economics. In addition she audited Geology and Journalism. Moore's course of study was more conventional. She took a BSc – Botany for three years, Chemistry, Applied Mathematics, Zoology, and French Science Reading.

The AUC's science departments were housed in the enlarged and refurbished Old Choral Hall. J. C. Sperrin-Johnson was the Head of the Biology Department and lectured in general biology, heredity and evolution. Sperrin-Johnson was known

as a wit and a dandy, however his shortcomings as a serious biology lecturer were balanced by his two assistants, 'Barney' McGregor, in Zoology, and Thomas L. Lancaster, who had sole responsibility for Botany.⁷ Cranwell respected Lancaster's knowledge of native flora, and his generosity in sharing it with his students; Moore remembered his use of local plants to bridge the gap between students' observations and imported textbooks.⁸ Both Lucys completed masters degrees in 1928. Under Lancaster's supervision Moore prepared a botany thesis on the structure of *Dactylanthus taylori*, the native root parasite also known as pua o te reinga. It was based on fieldwork that she and Cranwell undertook in Mangapehi in the King Country. Moore graduated with first class honours. Cranwell investigated epiphytes in the Waitakeres and gained an MA in Botany with second class honours.

Student life was not confined to lectures, study and exams, nor to the College grounds. Cranwell was a member of the Students' Association and represented the College in hockey. Both women belonged to the AUC Field Club. Under its auspices science students and staff arranged lectures and undertook a variety of field trips. Many of its members went on to become notable scientists. Club field trips introduced the two women both to the new pastime of tramping and to people with an interest in fieldwork. In 1926 Cranwell and four other science students purchased a steep section on the West Coast at Anawhata as a site for a Club hut and a base for fieldwork. A hut was built in 1928 and Elsie Locke, a student at the time, recalled the frequent presence of 'those dedicated botanists, the two Lucys', a welcome 'bonus' to amateurs such as herself.⁹ It was to the Anawhata hut that the two Lucys tramped with Arnold Wall. Wall, Professor of English at Canterbury University College, was also a noted poet, mountaineer, and botanist. He commemorated his excursion and his energetic companions – 'So brisk, so bright, so strong, so cheery, and so brainy!' – with a poem, the 'Tramping Girls of Auckland', published in the *Auckland Star*.¹⁰

Wall was just one of the many established botanists whom the two women met during this period. Leonard Cockayne (1855-1934), New Zealand's leading botanist and plant ecologist, was a most significant influence from this time. During his long career he published extensively and had cultivated an impressive national and international network of botanical contacts. The 'two Lucies', as Cockayne called them, were enthusiastic beneficiaries of his experience and

⁵Miss B. Battersby to the Secretary, Grammar School Board, 17 November 1924 and Miss A. C. Morrison to the Secretary, Grammar School Board, 12 October 1922, Auckland Grammar School Board papers, NZMS 824, Special Collections, Auckland City Libraries.

⁶Godley, p. 46.

⁷Brian Foster, Jack Rattenbury and John Marbrook (1983), *A History of Biology at Auckland University, 1883-1983*, Auckland, pp. 25-7, 53-6; Keith Sinclair (1983), *A History of the University of Auckland*, Auckland, p. 132.

⁸Thomson, p. 50; Lucy Moore (1945), 'The Late Professor T. L. Lancaster, MSc, FLS', *Bulletin of the Wellington Botanical Society*, 12, no page.

knowledge. Lucy Cranwell initiated this key acquaintance in 1928 when she asked Cockayne's assistance in identifying specimens that she had collected from Dun Mountain in Nelson.

Cockayne's willingness to provide the two Lucys with guidance and encouragement was important after they left University. As new graduates they could not count on finding employment but in 1929 felt themselves lucky to share the Duffus Lubecki Research Scholarship. The award, giving £40 each, was well-timed as it allowed the pair to embark immediately on one of Cockayne's field ecology projects 'urgently needing attention'.¹¹ Cockayne advocated the observation of living flora rather than the description of herbaria specimens and the two intelligent, energetic and independent women were suitable candidates to take up the challenge of ecological fieldwork.

The two Lucys set out for the Coromandel Ranges hoping to explain why the highest point, Te Moehau (892m), had become 'peopled with subalpine plants' and, thus, was unlike all the other summits of the Thames mountains.¹² As with many other remote areas in New Zealand, the Coromandel Ranges had not been fully described by earlier European botanists. The challenge was to expand on an 1888 note of its 'anomalous' summit vegetation.¹³ Cockayne provided the pair with four pages of detailed practical advice and asked that they bring back pieces of all summit species to grow in his garden for future comparison with other forms of the same species. They visited in March, May, and December 1929 and made seven more visits between 1930 and 1934.

The terrain was so difficult that Cranwell thought Te Moehau left a lot to be desired as a 'tramping proposition' but, botanically speaking, it was 'very wonderful'.¹⁴ The neglected area was of the highest ecological interest. Several aspects of their findings stood out for Cockayne: the relationship between the virgin, burnt, and browsing-animal infected areas; the extensive bogs; and the isolated high-altitude kauri community.¹⁵ Cockayne believed that the two Lucys had gathered material of 'general plant ecological interest' suitable for publication in prestigious international journals. However, the two papers that followed their Te Moehau fieldwork appeared in New Zealand journals. The first, 1934 paper was a pioneer study of the effects of introduced animals on native forest. It traced the change from rainforest to a grassland dominated by the bush rice grass, *Micolaena avenacea* (now known as *Ehrharta*

diplax). They attributed the dominance of the grass along bush tracks to the activities of exotic browsing mammals. The second, 1936 paper described the life-form and synecology of kauri growing at 660-810 m.

The Te Moehau trips stimulated the pair's interest in mountain flora. Between 1929 and 1935 the two Lucys were, it seems, in the field every spare minute they had. They visited other areas to collect comparative data about subalpine plants. The summit vegetation of Maungapohatu (1359 m) in the remote Ureweras was their objective in March 1930 and January 1932.¹⁶ The first visit was rapidly written up and became their first published article. In 1931 they visited Professor Wall in the South Island to tramp with him in Canterbury. In addition to Maungapohatu, they tackled Hikurangi (1710 m) on the East Coast of the North Island at Easter, 1932. Then, in 1933 they tramped across the Tararua Ranges, and went on to climb Tongariro. In 1934 they raced up Pirongia for a day.

Their mountain treks were interspersed with trips to remote offshore islands to the north of New Zealand. In November 1933 they participated in an Auckland Museum expedition with ornithologist A. T. Pycroft and the Museum's education officer and ornithologist, R. A. Falla. The expedition travelled to the Hen and Chicken group where they visited four of the Chickens and the north coast of the Hen. The Lucys' second nautical adventure was to the Poor Knights where they landed on three of the main islands. In December 1934 they returned to the Hen and Chickens with their friend Katie Pickmere. The two visits to the this island group, where they unexpectedly found kauri, resulted in their 1935 collaborative article, 'Botanical Notes on the Hen and Chicken Islands'. This was the first proper European account of the islands' vegetation. They went again to the Poor Knights in February 1927 where they camped on Aorangi. Dominion Museum botanist, W. R. B. Oliver, had described the islands' vegetation in the 1920s but with Katie Pickmere's help rowing between islands and the use of her father's yacht, the two Lucys were able to study the zonation of the islands' intertidal communities. This study was published in 1938.

Their work was not exclusively botanical. There was a strong social and sometimes anthropological component. Attired in boys shorts and often tramping alone, they were a novelty and attracted the attention of locals. During a Coromandel trip they dug up the prow and stern of a Maori waka, which they transported back to Auckland. Their trips to

⁹Elsie Locke (1981), *Student at the gate*, Christchurch, p. 145.

¹⁰Cranwell (1986), p. 25.

¹¹Lucy Moore to Yvonne Lorimer, 26 May 1975, LBM.

¹²Undated note, box 4, folder 44, LBM.

¹³James Adams (1888), *Transactions of the New Zealand Institute*, 21, p. 39.

¹⁴Lucy Cranwell to Mr Davies, 24 May 1929, box 4, folder 45, LBM.

¹⁵Leonard Cockayne to Lucy Cranwell, 26 May 1929, Lucy Cranwell Papers MS 95/52, Auckland War Memorial Museum Library (hereafter LMC).

¹⁶The 1930 trip is discussed in Kirstie Ross (1999), 'Signs of Landing: Pakeha Outdoor Recreation and the Cultural Colonisation of New Zealand', MA thesis, University of Auckland, pp. 75-86.

Maungapohatu took them through the community built by prophet, Rua Kenana. In 1930, on the way back from this sacred mountain they stopped at Ruatahuna and were allowed to enter Te-Wai-o-te-motu, the meeting house built there for Te Kooti by the Tuhoe people. During this visit they also discussed the Maori plant names of their specimens with members of the community.¹⁷

Success at University and in the field did not translate into professional success for Lucy Moore. In 1929, the Duffus Lubecki scholarship had offered her some reprieve but even with her exemplary qualifications and a growing publication record she did not find suitable employment until 1938. She took whatever was available. In late 1929 she applied for an extension to the Duffus Lubecki Scholarship. The extension was requested on the basis of the initial Te Moe Hau results and was supported by Cockayne.¹⁸ The scholarship was extended to cover 1930-1931. During 1930 Moore approached the DSIR about employment and the International Federation of University Women for a travelling scholarship. Neither initiative bore fruit. She taught science and elementary home science for a term at a girls' secondary school. However, around this time, the Biology Department at AUC was split into Botany and Zoology and Moore, with undergraduate passes in Zoology, was employed as the demonstrator in the new department. It was poorly paid but as Moore said, the job kept the 'wolf from the door'.¹⁹ As well as demonstrating, Moore gave weekly lectures in elementary botany and occasional lectures to the AUC Field Club members. The atmosphere in the Department was stimulating and Moore believed that she gained 'much benefit ... from the companionship of gifted younger people'.²⁰ Charles Fleming, future president of the Royal Society of New Zealand, and E. G. Turbott, later the ornithologist at Auckland Museum, were two such students.

By contrast, Cranwell did not have to wait long or look far for a job. Soon after graduation she was invited by Dr Gilbert Archey, the Director of the Auckland Museum, to become the Museum Botanist. She began her duties in April 1929, helping to prepare the galleries for the new Museum's official opening in November. Her next major task was to arrange the herbarium left by her predecessor, Thomas Frederick Cheeseman. Cranwell's outgoing personality suited her to the public service role that Archey envisaged for his staff. In the year 1932-1933 she reported an average of 63 enquiries a month. These and other public duties tended to 'cripple the progress' of her other work.²¹ Popularising her subject also consumed much of her time. Weekly columns under the

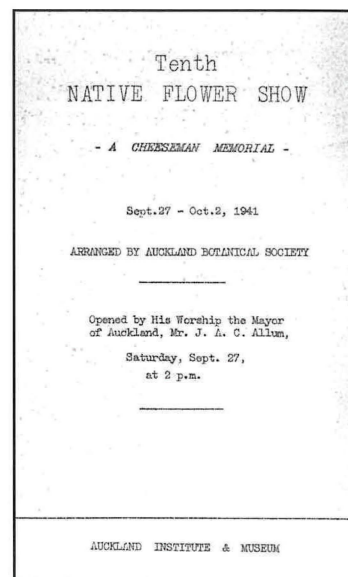
banner 'Children of Tane' in the *Auckland Star's* *Enzed Junior* were written by Cranwell to encourage children's interest in botany and spawned the Native Wild Flower Circle, to which a number of future scientists belonged. She also led children out in the field on 'Botany trots'. Nor were adults neglected. Cranwell gave radio talks and popular lectures about the places, people, and plants that she and Moore encountered on their field trips. Through the Cheeseman Memorial Spring Flower Show even more people became involved in botany. First held in 1932, the show became a popular event in Auckland. In 1934 6000 people attended the six days of native flower displays made by members of the community.

The two Lucys interrupted their employment to take overseas leave together in 1935 and 1936. They attended botanical congresses in London and Amsterdam and, to their pleasure, found that the uniqueness of New

Zealand's flora and their association with Cockayne helped to open doors in new places. 1941.

While they were away Cranwell undertook pollen research with Dr Lennart von Post in Sweden. Von Post held post-Glacial peat samples from Otago and Southland, and he hoped that the samples' pollen content would reveal something of New Zealand's early vegetation and climate history.²² Moore spent several days at the Kristineberg Marine Station in Sweden, four weeks at the Plymouth Marine Biological Station, and part of a term in the Zoology Department of University College, London.

Back in New Zealand in 1936, and undeterred by her 1934 rejection by Canterbury College, Moore applied for a lectureship in Botany at Victoria University College. Her friend, Dr H. H. Allan, Director of the DSIR's new Botany Division, supported her application. Again Moore was



Front Cover of the Souvenir Booklet for the Tenth Cheeseman Memorial Native Flower Show, 1941.

¹⁷Ross, p. 80.

¹⁸Leonard Cockayne to Lucy Cranwell, 7 October 1929, LMC.

¹⁹Lucy Moore to Yvonne Lorimer, 26 May 1975, LBM.

²⁰Biographical Details for the RSNZ Register of Fellows, box 23, folder 140, LBM.

²¹Report of the Botanist, Auckland Institute and Museum Annual Report, 1932-1933, p. 18. Further details of Cranwell's work may be found in these reports.

²²Moore (1986), p. 31.

²³Lucy Moore to Yvonne Lorimer, 26 May 1975, LBM.

unsuccessful. However, the creation of this new division provided a career opportunity for Moore. In June 1938 she became its Botanical Assistant and moved to Wellington where the Department was based. Henceforth her work would be directed by the Department's research agenda.²³

Cranwell returned to the Museum and made time to pursue her burgeoning interest in pollen studies, known as palynology. With the intention of stemming the ever-rising tide of enquiries, Cranwell prepared a popular booklet with Arnold Wall. *The Botany of Auckland*, published in December 1936, contained lists of species and their localities. The preparation of the annual flower show continued to take up time. In 1937 it was bigger than ever, attracting 10,400 people. Cranwell was awarded the Loder Cup in recognition of her contribution to fostering public interest in native flora through the shows. She oversaw the formation of the Auckland Botanical Society, which had partly grown from the Native Flower Circle, to share the show work. This left her relatively free to continue her interest in palynology. In 1938 she received a Bishop Museum Fellowship and spent six months in Hawai'i collecting bog peats with O. H. Selling and Carl Skottsberg of Sweden.

The two Lucys' last field trip took place over the summer holidays of 1939-1940. Their main object was no longer ecological but Cranwell's pollen studies. Accompanied A. L. Poole, this so-called 'Bog Expedition' took them to sites from which von Post's peat samples had come. The two women also tramped together in Stewart Island. War was about to become a defining context for their research. When Japan entered the war Moore surveyed local algae, seeking an alternative source of agar. Cranwell produced a survival booklet, *Food is Where you Find It* (1943) for the United States Army. War also brought new people into their circle. Cranwell met Captain (later Major) Watson Smith, an American archaeologist and serviceman posted to New Zealand. The two married in September 1943 and moved to the United States in 1944. This meant the end of the two Lucys' rucksack botany, and the start of individual careers in different fields.



Lucy Moore (left) and Lucy Cranwell (right) on Maungapohatu, January 1932. On this second visit to the Ureweras, the two Lucys were accompanied by Raymond Firth, the anthropologist, and Norman Potts, a conservationist and lawyer from Opotiki

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