

My Dear Eve...: The Remaining Letters from Eve's Rutherford File

by Dr. Montague Cohen and A.J. Hobbins

ABSTRACT

Throughout their lives, Ernest Rutherford and his wife Mary wrote and received many letters of a chatty, impersonal nature, many of which have previously been published. This article comprises a number of hitherto unpublished letters written by Mary Rutherford at the time of her husband's terminal illness in 1937, and subsequently. The article also includes the full text of a letter written by Rutherford to his wife in 1914, a condensed version of which was included in Eve's 1939 biography of Rutherford.

RESUMÉ

Tout au long de leurs vies, Ernest Rutherford et son épouse Mary ont écrit et reçu une grande quantité de lettres de nature impersonnelle et pleines de bavardage, dont plusieurs ont déjà été publiées. Cet article présente un certain nombre de lettres inédites écrites par Mary Rutherford à l'époque de la maladie qui allait emporter son mari en 1937, et au cours des années suivantes. L'article comprend également le texte intégral d'une lettre écrite par Ernest Rutherford à sa femme en 1914, dont une version abrégée a été publiée dans la biographie de Rutherford écrite par Eve en 1939.

Dr. Montague Cohen (1925-2002) edited a series of previously unpublished letters from Ernest Rutherford to his friend and biographer, Arthur Stewart Eve¹, in several volumes of *Fontanus*.² These letters, covering the period 1907-1919, had been found in a desk in the basement of the Macdonald Physics building when it was renovated in the 1970s. Copies of other letters were found in Dr. Cohen's papers after his death. Unlike the earlier collection, these letters were not written by Rutherford to Eve. Rather they appear to have been in Eve's possession in 1937, almost certainly to be used in connection with the production of Rutherford's official biography.³ Dr. Cohen was evidently preparing this collection for publication as a companion article to his earlier work at the time of his death. The letters had been transcribed and, in addition to the abstract above and one

other paragraph, he had written the following brief introduction:

Throughout their lives, Ernest Rutherford and his wife Mary wrote and received many letters: perhaps on average one a week. This was not unusual in the late 19th and early 20th centuries: although the telephone existed (it was invented in 1876) its use was minimal compared to today and, in particular, long-distance and overseas calls were virtually unknown. Furthermore, present-day distractions, such as television, were either non-existent or far less persuasive. So people wrote long and chatty letters to their relatives and friends and, furthermore, they tended to keep the letters they themselves received. Ernest and Mary Rutherford were no exception to this rule: they wrote, and

obtained, hundreds of letters, both to each other and to friends, relatives and colleagues. Arthur Eve's biography of Rutherford, published in 1939 consists largely of excerpts of these letters. The correspondence of Rutherford and Eve between 1908 and 1933, comprising 40 letters from Rutherford to Eve and 39 from Eve to Rutherford, has been documented previously in this journal. The present article comprises a number of hitherto unpublished letters written by Mary Rutherford at the time of her husband's terminal illness in 1937, and subsequently. In addition, we publish the full text of a letter written by Rutherford to his wife in 1914: a much-shortened version of this letter was included in Eve's biography of Rutherford.

It is considered a fitting tribute to Dr. Cohen that this last part of his work on the Rutherford letters should be completed and published in *Fontanus*. This work fell to A.J. Hobbins, who took over from Dr. Cohen as acting editor of *Fontanus* XI. The letters are presented here chronologically, with text and biographical notes as appropriate. Except where noted, the text is by Hobbins who is responsible for any shortcomings.

Arthur Stewart Eve (1862-1948) was inspired by some publications of Ernest Rutherford (1871-1937) and came to McGill University in 1903 to undertake research under the latter's guidance. Two years later Eve married Elizabeth Brooks, the sister of Harriet Brooks, Rutherford's first graduate student. Rutherford left McGill in 1907 to take up the post of Langworthy Professor of Physics at the University of Manchester and later moved to the Cavendish Laboratory at Cambridge (1919-1937). Despite time and distance, Eve and Rutherford maintained a close friendship and lengthy correspondence. Many of these letters had been catalogued and published, but one package had

remained undiscovered until recently and formed the basis for Dr. Cohen's earlier articles. These letters are now in the Rutherford Museum in the McGill Department of Physics. Dr. Cohen's final selection of letters published here is taken from the Eve collection in the McGill University Archives⁵ and appears to have been acquired by Eve as part of his preparation of the official biography of Rutherford.

The first letter is from Rutherford to his wife, Mary Newton Rutherford, and is incomplete. Presumably Lady Rutherford gave it to Eve after her husband's death. Possibly she removed the concluding page(s), which may have been too personal. Eve cited extracts from the letter apparently including one phrase that does not appear the letter reproduced below.⁶ Consistent with his style throughout the biography, however, Eve does not attribute his quotations. Rutherford, recently knighted, was visiting North America to deliver the first William E. Hale lecture to the National Academy of Sciences in Washington.

Hotel Touraine, Boston. April 14, 1914

I have at last got a few minutes free before going in to New Haven, to tell you of my wanderings since my arrival in Halifax on Tuesday at 6 p.m. I found Mackenzie⁷ Principal of Dalhousie and Bronson⁸ down to meet me and we had dinner together and talked over old times. Bronson told his household was upset as his wife had been confined but the youngster was stillborn about five days previously and she was in rather a poor way. We took five hours before the special C.P.R. train got away about 11:30 in the evening. The journey to Montreal through Maine was very tedious and uninteresting, as there was deep snow everywhere. I whiled away the time with sleep and bridge with the youngsters who had the drawing room on the car. We did not arrive at Montreal until 3 a.m. I slept on till 6 and then

got up and telephoned through to Eve about 7 and told them I was coming to breakfast. After collecting baggage, I took a cab and got there at 8. There was snow everywhere in the streets and the weather when I was there was generally about freezing with a good deal of wind. Such conditions were of course exceptional but I thank God I did not have to live in Montreal permanently.⁹ The Eve's house is very comfortable and they looked after me in great style. Joan and Dick are great youngsters and the former is remarkably intelligent and helpful for her years. I got them presents through Mrs. Eve and they were in great form when I left. Mrs. Eve looks very well and their household runs very happily.

As soon as I had settled down for a smoke I had to make ready to set out for the Lab. to prepare for my lecture at 4. I just had time to get things ready before tea when I met a number of old friends. Sir Wm. Macdonald¹⁰, who is now Chancellor of McGill, turned up. He looks much the same as ever. After sending a number of wires for arrangements in the States, we went to dinner at the University Club where about fifty were present with speeches, etc. by Peterson¹¹, Barnes¹², Eve and myself. Eve and I got home about 1.30 in the morning after undressing in the club. Next day I spent in looking over the Lab. and seeing about various things and calls and dined with the Eves. The Porters¹³, Miss Baker¹⁴ and the Harknesses¹⁵ were there — a pleasant affair. Saturday I went to lunch with Harkness and dinner with the Moyses¹⁶ whom I found all flourishing. Sunday I went to lunch with the Pitchers¹⁷ and saw Harriet's three babies (all admirable specimens) and then on to tea with the

Porters and home to a rapid supper before leaving for the station to take the 8 train to Boston. I saw Maclaurin¹⁸ yesterday and had lunch with him. Mrs. Maclaurin had just heard of the sudden death of her mother in London, so I did not see her. In the afternoon I went over to Harvard, saw Richards¹⁹ and the physical people and had a dinner in the club there. Today I leave for Yale and expect to pickup Boltwood²⁰ halfway at Springfield and arrive about 4 there. I am feeling in most

The letter breaks off at this point and is the only one authored by Rutherford in this last group.

The remaining letters date from the period of Rutherford's illness and death in 1937. Dr. Cohen had stated that there was no surviving example of a letter from Mary Rutherford to Eve.²¹ He would not have made this assertion had he known at the time of the Eve collection in the McGill University Archives, which he clearly consulted later. Mary Rutherford wrote to Eve to tell him of Rutherford's sudden medical problem.

October 16, 1937

Dear Mr. Eve,

I know you will be sorry to hear Ernest was operated on last night for strangulated hernia (navel) quite successfully and in good time though they said that in a few hours it would have been gangrenous and much more serious. He felt seedy on Thursday with a lot of flatulence and sick in the night. On Friday at 7:30 am I called the doctor,²² and he diagnosed stoppage, called in Dr. Ryle,²³ Regius Professor of Medicine and they at once put him in the Evelyn Home and got Sir Thomas Dunhill²⁴ up from London, a surgeon. He examined him at 6:30 and operated at 8 pm.

Today he was doing splendidly, rather drowsy all day. He will be 2 weeks in hospital. At present the surgeon says there is no reason why he shouldn't go to India but I feel he will funk it.²⁵ It will be a great disappointment to both of us if we can't go. Don't mention this if you are writing, I don't want to discuss it till he's convalescent. Fortunately, his general health is very good, blood pressure all it should be. How things move! 3 days ago apparently quite well, today in hospital 24 hours after a major operation!

Love to you both.

Yours ever,

Mary Rutherford

Lady Rutherford followed this letter up the next day under the mistaken impression that she had mislaid the first letter.

Sunday (October 17, 1937)

Dear Dr. Eve:

I wrote a letter last night to post today & have lost it! You will be sorry to hear that Ernest has been op. on for strangulated hernia-navel, quite successfully. Everything is all right but he is very miserable today with sickness. It was quite sudden, seedy all Thursday with "indigestion" & flatulence, doctor Friday morning, consultation later, London surgeon Sr Thos Dunhill sent for and op at 8 pm Friday.

I am just rushing to post.

Yours ever

Mary Rutherford

Despite the optimistic prognosis, Rutherford died two days later. The official cause of death was given as heart failure caused by intestinal paralysis following an operation for a Richter's hernia.²⁶

Shortly after Rutherford's death it was announced that Eve would be the official biographer. In this role he received a communication from the artist, Sir William Rothenstein:

5 December 1937

Dear Mr. Eve,

I recently had a letter from Cavendish Laboratory, asking me about a portrait drawing I made of Rutherford.²⁷ I have mislaid the letter — can you tell me to whom I should reply. The drawing itself is in my possession — do you think the Cavendish Laboratory would care to own it — or the Royal Society? I sent a reproduction of the drawing recently to Lady Rutherford, who very kindly wrote to tell me that it is the portrait of her husband which she prefers to all other records of him. I am interested to read that you have been chosen to write the official biography.

Sincerely yours,

Wm Rothenstein

William Rothenstein (1872-1945), was born in Bradford of German parents. He studied in the Slade School of Art under Alphonse Legros and later went to Académie Julian, Paris (1889-1893). During World War I he accepted an offer from Charles Masterman, the head of the government's War Propaganda Bureau (WPB) to become an official war artist with the British and Canadian Expeditionary Forces. Between 1920 and 1935 he served as Principal of the Royal College of Art, where his pupils included Henry Moore and Barbara Hepworth. He concluded his career as an unofficial war artist for the Royal Air Force.²⁸

Apparently Eve expressed interest in using the portrait in his biography and Rothenstein was quite willing:

10 December 1937

Dear Mr. Eve — Yes, indeed, when you come here I will gladly show you the

drawing. I shall be quite agreeable to your reproducing it in your biography.

Sincerely yours

Wm. Rothenstein

Ultimately the portrait by Sir Oswald Birley, in the possession of the Royal Society, was used in the biography, although this may not have been Eve's decision. The Rothenstein drawing is now in the National Portrait Gallery.²⁹

In May 1938, Lady Rutherford prepared a memorandum on her early relationship with Rutherford, which reads:

Soon after Rutherford joined the University³⁰, he went to live with Mrs. DeRenzy Newton,³¹ a widow with four children. The eldest, Mary, and Ernest later became deeply attached to one another. She spent many holidays with the Rutherfords, and they were unofficially engaged before he left for Cambridge. Their engagement was announced in 1896, shortly before she came to England to visit relations and break their long separation. She spent a happy May-week with the J.J. Thomsons³² and saw Ernest take the first Research Degree in June 1897. After that they had to possess their souls in patience for 3 years.

The following year Rutherford was appointed to Montreal. First of all, he had to repay money borrowed from his father, and then to save for the great expense of the long journey for two and for setting up of their home. So it was not until June 28, 1900 that they could be married and start on the life in a new country together.

Eve used some, but by no means all, of this memorandum in his biography, using Mary Rutherford's exact wording but not attributing it.³³ It is possible that they had come to some agreement on this point.

Rutherford's favourite recreations were motoring and golf. When playing golf Rutherford's group were known as the 'Talking Foursome', and generally consisted of more than four players.³⁴ The 'talking' usually continued on the 'nineteenth hole' and has been the subject of a short monograph.³⁵ One of the foursome, British physicist Sir Ralph Howard Fowler (1889-1944), had joined the Cavendish Laboratory in 1920 and, the following year, married Rutherford's only child, Eileen (1901-1930). Eve approached Fowler for information on the golf exploits and received the following response:

11th March 1938

Dear Eve,

I have just had a letter from Snow³⁶ of Christ's College, who is now editor of "Discovery", published by the University Press here, that he wants to publish an illustrated article on the Cavendish Laboratory in the first number of the new series. He writes to me that he believes the authorities (not specified) are unwilling for photographs of the high tension apparatus and the cyclotron to appear anywhere until the biography of Rutherford is out. I don't know whose opinion he is quoting, and I expect I shall have to make further enquiries about it. In the meantime I thought I would like to write to you, to hear if you had any feeling in the matter. It does not seem to me at first sight that the publication of Rutherford's biography is relevant to the article proposed, but no doubt there are other points which I have at present overlooked. Anyhow, I should be glad to know whether you have any feeling in the matter. If you have, of course the proposed article can be postponed or modified.

I will try and send you now some notes on the golfing holidays which you asked me for some time ago.

Rutherford's main golfing activities fell into two groups. There were the Sunday morning games on the Gogs,³⁷ which continued regularly from the time he came to Cambridge until a week or so before he died. A large number of people took part in them during the course of those years, and I cannot speak with accuracy of the names of the players recently, since I ceased to be a member of the party some four or five years ago, when the early time of starting on Sunday morning became more than I could bear. I think I may say that I was the only member of that party who breakfasted regularly during the week at eight o'clock.

To start with, the party usually consisted of Aston,³⁸ G.I. Taylor³⁹, myself, Dick Southwell⁴⁰ and from time to time other people, who were not such regular players. We used regularly to play three-ball matches, very often with five or six players, and were known on the course as "The talking Foursome". It didn't speak much, perhaps, for our golf, but it gave the correct impression of the sort of party that it was. In early days Lady Rutherford and Eileen used regularly to walk round. These games were very good fun, and as their name suggests, their golf was not the only form of entertainment.

Aston could tell you about the names of the players in more recent years, those that I can recall or know of include F.G. Mann,⁴¹ of the Chemistry Department, F.J.W. Roughton,⁴² and W.R. Dean⁴³, all members of Trinity, Dean a mathematician, and Roughton a physiologist.

The other group of golfing occasions were all short holidays of two or three days, generally starting immediately

after the Rigger Match, which all the rest of us attended, though Rutherford did not. These were regularly organized by Southwell, and the party consisted usually of Southwell and his wife⁴⁴, Rutherford, sometimes Lady Rutherford, though not often, Geoffrey and Stephanie Taylor⁴⁵, de Navarro⁴⁶, Wimperis,⁴⁷ Belfield⁴⁸, an engineer at Oxford working in Southwell's Laboratory, and myself. We started these parties by a visit to Frilford, though I don't remember the exact date, I think it must have been in 1928. After that we went for two or three years to Brighton, and played on the Dyke course, the Brighton and Hove course, and sometimes at Littlehampton, but after a very pleasant first 2 years there, the next two years we struck terribly cold weather, and didn't go to Brighton again. The last few meetings were at Ashdown Forest, when we played on the very beautiful course there.

These holidays were of course extraordinarily good fun, and in the evenings very frequently Rutherford was absolutely at his best in reminiscing about everything under the sun, and particularly and most indiscreetly about J.J.⁴⁹ and old days in the Cavendish. I remember one year one of the most successful parties at Brighton, when the weather had not been too cold, when I am afraid our party behaved very badly and completely dominated the hotel sitting room after dinner. Rutherford was at his absolute best. I remember that the sitting room there was in two or more sections, and we had ousted everyone except ourselves from one of the them, and then told stories of every sort and description of impropriety, to the great distress of the rest of the inhabitants, who never could hear the

point of the story, because voices were always dropped just in time. Warburton Southwell⁵⁰ that year had been very unwell, and stayed on after the party dispersed, and when alone was tackled by all the other occupants of the hotel in vain attempts to find out who we all were.

I think that covers the main facts that you want. There was a letter to the Times soon after Rutherford died, which was I know actually written by Dick Southwell, which gives an extraordinarily happy and sympathetic short sketch of these golfing parties. You probably could get more and better information out of him than out of anybody else, for I have a wretched sort of memory for these things, which always forgets all the really good points. If however, you would like me to try and amplify what I have said in this letter I will of course make every effort to do so.

I am proposing to cable to Jim Rutherford⁵¹ during the coming weekend. I am quite sure from Lady Rutherford's letter that if the letters had been sent off at the time when the letter to her was written, they must have been here without fail by now.

Yours very sincerely,

R.H. Fowler

As with Mary Rutherford's letter Eve used the information, including direct quotation, without attribution.⁵²

Of the final letter in the collection, Dr. Cohen wrote the following:

The final example in this collection is an undated letter from Mary Rutherford to "Stewart". The content of this letter indicates that it was written after Rutherford's death, in late 1937 or early 1938, when Lady Rutherford was

preparing to move from her Cambridge home. While the identity of "Stewart" is uncertain, the most probable person in Arthur Stewart Eve, colleague and biographer of Rutherford. During Rutherford's lifetime she always addressed Eve as "Mr." or "Dr. Eve" but it seems that, after her husband's death, and especially during the writing of the biography, her relationship with Eve became closer. Furthermore, Eve's wife was indeed *Elizabeth*.

98 Barton Rd.

Cambridge

Tel. 54050 Camb.

Dear Stewart

Here is your kind loan in stamps. I had a busy day, 2-1/2 hrs, with the flats architect & only caught my train by about 1 minute, I hate running for tickets & luggage. Thanks to who ever did the luggage business so kindly for me. The carriage was full, and I tucked my suit case half under seat with my feet on it, in such a position that I ricked a cartilage and arrived home dead lame and my ankle swelled up. I got Waller along and he manipulated it and bandaged it up tight — and today it is nearly well. It was horribly painful last night but not at all today. It was a horrible squeak though & would have been maddening to be tied up just now. I interviewed auctioneer, book valuer, new leaseholder all day. My young nephew came for the weekend & moved furniture all afternoon, & will do lots more tomorrow. I am busy typing letter extracts tonight. Love to Elizabeth.

Yours sincerely,

Mary Rutherford

In fact there can be little doubt the letter was addressed to Eve. In addition to the fact that the

letter was in Eve's papers, he was always known by his middle name, and was generally referred to as "Stew" by his intimates. It transpires that Waller was a local pork butcher to whom the Rutherfords were accustomed to go with aches and pains. He "had a little room at the back of his Victoria Street [sic] butcher's shop from which he practiced a second occupation as a masseur and manipulator. Many people swore by him. He had fixed Ern's knee and regularly massaged Ern's shoulders and neck."⁵³ A. Waller & Son, butchers, still exists at 15 Victoria Avenue, Cambridge.

In his first article Dr. Cohen wrote:

One of the minor mysteries of the Rutherford-Eve correspondence is why Eve made so little use of it in his biography of Rutherford. The volume includes many extracts, some quite extensive, of letters both to and from Rutherford – indeed, as already noted, the title of the biography specifically refers to Rutherford's letters. However, while there are many indirect references to the letters from Rutherford to Eve, there is only one direct quotation, from a letter written by Rutherford shortly before his death in 1937. The omission was no doubt intentional: thus, although Rutherford's description of the Nobel ceremony in his letter to Eve of December 22, 1908 was far more graphic than the corresponding account written to other friends and colleagues, Eve chose to quote from Rutherford's letter to Hahn rather than transcribe the description in his own possession. It may be that Eve considered it "ungentlemanly" to take advantage of correspondence addressed directly to himself.

While Dr. Cohen's suggested solution is no doubt ingenious, the application of Occam's razor provides a readier answer. Eve retired from McGill in 1935 and returned to live in England. In late 1937 he was asked to write the biography.

He did not use his pre-1935 Rutherford correspondence because he had left in a desk in Montreal, to be discovered 40 years later, and probably had no idea what he had done with the letters. One imagines he may have searched long and hard for them when he knew he was to be the biographer, and was doubtless greatly chagrined at having lost them.

This concludes Montague Cohen's work on the unpublished correspondence of Rutherford to Eve, as well as these ancillary letters. The centenary in 2008 of Rutherford's Nobel award has renewed interest in him by historians of science for whom Dr. Cohen hoped this correspondence would prove useful. This article is published as a contribution to seeing that hope realized.

ENDNOTES

¹ Arthur Stewart Eve (1862-1948) was Professor of Physics at McGill University from 1909, Chairman of the Physics Dept. from 1919-1935, and President of the Royal Society of Canada from 1919 to 1930. His biography of Rutherford (see below) was published in 1939.

² Montague Cohen. "My Dear Eve...", Part I (1907-08), *Fontanus*, 1 (1988) 3-37; Part II (1909-11), *Fontanus*, 2 (1989) 111-138; Part III (1912-14) *Fontanus*, 3 (1991), 69-108; Part IV (1915-19), *Fontanus*, 5 (1992), 123-159.

³ A.S. Eve. *Rutherford, Being the Life and Letters of the Rt. Hon. Lord Rutherford, O.M.* (Cambridge: Cambridge University Press, 1939).

⁴ *Ibid.*, at 230.

⁵ MUA MG 1035.

⁶ Eve states Rutherford dined at the Harvard Club and "gave an informal lecture which went off in great style." Eve, Rutherford, at 231. Since the extant portions of the letter go beyond this dinner and speech it is possible Eve was quoting from another letter.

⁷ Dr. A. Stanley MacKenzie was a Professor of Physics (1905-1910) and President (1911-1931) of Dalhousie University. His research interest was gravitation.

⁸ Howard Logan Bronson, a young American graduate from Yale, had joined Rutherford's team at McGill in 1904, where, a year later, he was credited with solving some radioactivity measurement problems (http://www.physics.mcgill.ca/museum/measurement_techniques.htm). He subsequently moved to Dalhousie University to teach physics. His "Reminiscences of Rutherford at McGill" appeared in the first volume of James Chadwick, *Collected Papers of Lord Rutherford* (London: Allen and Unwin, 1962).

⁹ Of course Rutherford did live in Montreal for nearly a decade, including the first seven years of his married life.

¹⁰ Sir William Macdonald, arguably McGill's greatest benefactor, had paid for the construction of the Macdonald Physics Building, where Rutherford had worked. He served as Chancellor from 1914 until his death in 1917.

¹¹ Sir William Peterson (1856-1921) was the Principal of McGill (1895-1919) who appointed Rutherford in 1898.

¹² Howard Turner Barnes (1873-1950), who came to Montreal from Massachusetts as a child, joined the McGill Physics Department in 1900. He subsequently succeeded Rutherford as Macdonald Professor of Physics in 1908. His area of specialty was precision calorimetry, with particular respect to icebergs and the St. Lawrence River ice. His papers, including Rutherford correspondence, are in the McGill University Archives, MG 1016.

¹³ John Bonsall Porter (1861-1944) came to McGill in 1896 as Macdonald Professor of Mining and Metallurgy, a position he held until his retirement in 1927. His wife was Ethel Hardinge. His papers are in the McGill University Archives, MG 1011

¹⁴ Not identified.

¹⁵ James Harkness was appointed Redpath Professor of Pure Mathematics in 1903, after teaching at Trinity College, Cambridge, and Bryn Mawr. At the latter institute he directed the graduate work of Harriet Brooks, Eve's sister-in-law. See *infra* note 17.

¹⁶ Charles Ebenezer Moyses (1852-1924) was Molson Professor of English Language and Literature (1882-1919) and held the position of Lecturer in history (1882-1895). In 1904 he became the Dean of the Faculty of Arts and the Vice-Principal of the University. In 1919 he retired as Emeritus Vice-Principal. His papers are in the McGill University Archives, MG 4001.

¹⁷ Harriet Brooks Pitcher (1876-1933) was Rutherford's first graduate student and subsequently joined his research team. Rutherford considered her the most outstanding woman scientist of the day next to Marie Curie, with whom she subsequently worked, and stated that her identification of radon allowed him to propose the theory of transmutation of one element to another. She gave up her brilliant career when she married Frank Pitcher in 1907. Further details can be found in Marlene F. Rayner-Canham and Geoffrey W. Rayner-Canham, *Harriet Brooks: Pioneer Nuclear Scientist* (Montreal: McGill-Queen's University Press, 1992). Her sister, Elizabeth Brooks, married A.S. Eve.

¹⁸ Richard Cockburn Maclaurin (1870-1920) was a New Zealander who served as President of Massachusetts Institute of Technology (1909-1920). He married Margaret Alice Pairman Young in 1904 at Auckland. For further details see Henry Greenleaf Pearson, *Richard Cockburn Maclaurin, President of the Massachusetts Institute of Technology, 1909-1920* (New York: Macmillan, 1937).

¹⁹ Theodore W. Richards (1868-1928) was appointed Erving Professor of Chemistry and Director of the Wolcott

Gibbs Memorial Laboratory at Harvard in 1912. He was awarded the 1914 Nobel Prize for Chemistry.

²⁰ Bertram Borden Boltwood (1870-1927) was a professor of radiochemistry at Yale (1910-1927), before which he had been a private consultant. Rutherford had a long association with Boltwood and their correspondence was published in Lawrence Badash, ed., *Rutherford and Boltwood: Letters on Radioactivity* (New Haven: Yale University Press, 1969).

²¹ Cohen, note 2 above, Part I, p. 8.

²² The family doctor was H.E. Nourse. See Eve, Rutherford, at 425.

²³ Sir John Ryle was Regius Professor of Physic (not Medicine) at Cambridge at this time. He later moved to Oxford as the first professor of social medicine.

²⁴ Thomas Peel Dunhill (1876-1957) was an Australian surgeon who specialized in thyroid conditions. In 1920 he accepted an invitation to join the professorial surgical unit at St Bartholomew's Hospital, London. King George V appointed him surgeon to the royal household in 1928, an honorary surgeon to His Majesty in 1930, and elevated him to Knight Commander of the Victorian Order (KCVO) in 1933. King George VI continued with his services, appointing him Serjeant-Surgeon in 1939, and elevating him to Knight Grand Cross of the Victorian Order (GCVO) in the spring of 1949.

²⁵ The Indian Science Congress, on its Silver Jubilee, was meeting jointly with the British Association for the Advancement of Science. Rutherford was invited to give the Presidential Address. Sir James Jeans, who succeeded Rutherford as President, subsequently read this speech in January 1938. Eve, Rutherford, at. 420.

²⁶ Eve, Rutherford, pp. 425-427. Most sources stated that Rutherford had suffered from a small umbilical hernia for years (for example David Wilson, *Rutherford: Simple Genius*, (Cambridge: MIT Press, 1983), 598). One source suggested his death was the result of a fall from a tree while gardening. See E.N. Andrade, *Rutherford and the Nature of the Atom*, (New York: Doubleday, 1964), 207.

²⁷ Now in the National Portrait Gallery, NPG 4793 Ernest Rutherford, Baron Rutherford by Sir William Rothenstein, sanguine and pencil, circa 1925.

<http://images.npg.org.uk/OCimg/websm/4/5/mw05545.jpg>, (accessed July 16, 2008).

²⁸ *The Grove Dictionary of Art Online*, s.v. "Rothstein, Sir William" (by John Rothstein), <http://www.groveart.com> (accessed June 15, 2004).

²⁹ See <http://www.npg.org.uk/live/search/portrait.asp?LinKID=mp03920&role=sit&rNo=0>

³⁰ Canterbury College, Christchurch, N.Z.

³¹ Mary Derenzy Newton, widow of Arthur Charles Newton, took lodgers in her house in North Belt, Christchurch. Her oldest daughter was Mary Georgina, who became Lady Rutherford.

³² Sir J[oseph] J[ohn] Thomson (1856-1940), British physicist, served as Cavendish Professor of Experimental Physics from 1884 to 1918. He married Rose Elisabeth, daughter of Sir George E. Paget in 1890 and was Rutherford's research director. He was awarded the Nobel Prize for Physics in 1906.

³³ For examples see Eve, Rutherford, 11 and 45.

³⁴ *Ibid*, 409-410.

³⁵ Frederick George Mann, *Lord Rutherford on the Golf Course* (Cambridge: privately printed, 1976).

³⁶ C[harles] P[ercy] Snow, Baron Snow (1905-1980) was editor of *Discovery* from 1938-1940. An illustrated article by S. Devons, "The Cavendish Laboratory Today", *Discovery* (April, 1938), pp. 39-44, did appear in the first issue of the new series.

³⁷ Gogmagog was a giant of ancient Cornish legend slain by Corineus. In other versions there were two giants called Gog and Magog. The Gog Magog Golf Club in the Gog Magog hills near Cambridge was known familiarly as the Gogs.

³⁸ Francis William Aston (1877-1945), inventor of the mass spectrograph, had joined J.J. Thomson at the Cavendish Laboratory in 1909. He was awarded the Nobel Prize for Chemistry in 1922.

³⁹ Sir Geoffrey Ingram Taylor (1886-1975), British mathematician and physicist, was a Fellow of Trinity College, Cambridge (1910-1975).

⁴⁰ Richard Vynne Southwell (1888-1970), British professor of engineering science, was a Fellow of Trinity College, Cambridge (1912-1970). He subsequently taught at Brasenose College, Oxford (1929-1942), before becoming Rector of Imperial College, London (1942-1948).

⁴¹ Frederick George Mann (1898-1982), British organic chemist, was a Fellow of Trinity College, Cambridge (1931-1982).

⁴² F[rancis] J[ohn] W[orsley] Roughton (1899-1972), British physiologist, was a Fellow of Trinity College,

Cambridge (1923-1972) and lecturer in physiology (1927-1947).

⁴³ William Reginald Dean (1896-1973), British mathematician, was a Fellow of Trinity College, Cambridge (1923-1973) and lecturer in mathematics (1929-1952). He later took the position of Goldsmid Professor of Mathematics at University College, London.

⁴⁴ Southwell married Isabella Wilhelmina Warburton Southwell, daughter of William Warburton Wingate, in 1918.

⁴⁵ Taylor, note 39 above, had married Grace Stephanie Ravenhill in 1925.

⁴⁶ José Maria de Navarro, (b. 1893), British archaeologist, was the son of Rutherford's neighbour, former actress Mary Anderson de Navarro (1859-1949). Anderson mentions her son's description of Rutherford's approach to golf in her autobiography *A Few More Memories* (London: Hutchinson, 1936), cited by Eve, Rutherford, 365.

⁴⁷ Harry Egerton Wimperis (1876-1960), was the first Director of Scientific Research for the Air Ministry at this juncture. He is credited with being one of the moving spirits behind the invention of RADAR after he asked Robert Watson Watt about the possibility of creating a death ray (hoping the theory would be disproved). While Watt replied that a wave to disable enemy aircraft was considered impractical, he felt its reflection could be used for location purposes. Wimperis' committee then made this development a priority.

⁴⁸ No further identification.

⁴⁹ J.J. Thomson, see note 32 above.

⁵⁰ Southwell's wife (note 44 above), was evidently not fond of her first two given names.

⁵¹ Rutherford's brother.

⁵² For example, see Eve, Rutherford, 409-10.

⁵³ John Campbell, *Rutherford: Scientist Supreme* (Christchurch, N.Z.: AAS publications, 1999), at 471.