

Ernest at Cambridge, 1895

The sky was steel grey. “Another average November day ahead” thought Ernest, “it will reach all of nine degrees.” It seemed like a weather version of the never ending song. Having endured another Christchurch winter he had now travelled 51 days on a ship to land at London in England and journeyed 70km north to Cambridge in time for the Northern hemisphere winter!

Still, he had not come to Cambridge to be a sun-seeking tourist. Having won the 1851 Great Exhibition Scholarship to carry out scientific research, he had a point to prove. Some of the staff at Cambridge’s Cavendish Laboratory had been less than welcoming. It seemed to be related to his coming from the Antipodes. That was the term English people called Australia and New Zealand, on the opposite side of the world. It hadn’t helped that some of them sniggered when they passed his research room and he definitely wasn’t invited to social events. On the other hand, the Prof and his wife had been brilliant. His official title was J.J. Thomson, Cavendish Professor of Physics but to those who worked with him, he was known as JJ or the Prof. When he had first arrived in London, JJ had sent him a letter which read *I shall be very glad for you to work at the Cavendish Laboratory and will give you all the assistance I can.*

Ernest’s work that day was more of the same, continuing the work he had been doing at Canterbury College, back home in New Zealand. He had been trying to see how far he could detect electromagnetic waves travelling through air. He had been put in contact with Sir Robert Ball, who wanted a ship to know where a lighthouse hidden by fog was by detecting these electromagnetic waves. Ernest could now detect these waves at 90m. “If I can improve my detector so it can pick up waves at 15km, fame and fortune await” Ernest had thought. The work was going slowly, but steadily. Anyone who thought becoming a famous scientist simply involved making a few measurements over a couple of days were wrong. Ernest felt really strongly about this. First of all one had to think a lot! What is the best experiment to show what I want to show? How can I make my detector better? How can I be in two places at once? It was like the rugby he had played in Christchurch, players didn’t get better unless hard work over months went in. How did The 1893 New Zealand Rugby Team, win 9 of their 10 games in the Tour of Australia?

Discussion questions

- 1) Who were the Antipodeans and how were they regarded by some English people?
- 2) What qualities were needed to succeed at research?
- 3) How does English weather compare with New Zealand’s?

That evening Ernest returned to his “digs”. Mrs Thomson had put him in contact with a widow who a room for rent. What a shock it had been money wise, this OE was going to be expensive! The bedroom and sitting room were fifteen shillings six pence a week, coal and firewood one shilling and six pence a week, use of crockery one shilling and six pence week. He also had to pay for oil and food. At this rate he would go through half his scholarship just paying for food and rent. As well there were University fees to pay, clothes that needed replacing and transport costs. At this rate it would be a long time before he could afford to marry May.

After a “banger and mash” tea Ernest sat down to write to May. The oil lamp cast a pale light on the wall. Ernest stared at some of the pictures of New Zealand he had pinned on the wall and recent articles from the Christchurch newspaper, “The Press”. They reminded him of his former home. Most attention however, went to a treasured photograph of May.

Discussion questions

- 4) What does OE mean and what is involved?
- 5) What were the hidden costs in boarding?
- 6) Why would Ernest use an oil lamp for lighting and reading?

May’s picture spurred Ernest to write.

Dearest May,

Looking at your picture reminds me of the times we spent together and what one day, will be. In the meantime it is very sad that all those kisses can’t be gone over again. A photograph is very mild after the original.

My research is going well and the Prof has indicated that he is very happy with both my attitude and the quality of my work. I don’t know how long I will stick with trying to detect electromagnetic waves even if there could be money in it. I have heard of a young Italian, Marconi who has been doing experiments on this and is coming over to England.

What is exciting me is news just out from Germany. Rontgen had discovered these mysterious rays that people are calling X-rays that can go through people. Rontgen took a picture of his wife's hand. When she saw her skeleton she exclaimed "I have seen my death!" I think she may be over reacting. Back to science, the Prof is excited and is thinking of lots of experiments we could do about this new thing. Did you notice the royal “we”? He has invited me to work with him on X-rays, I intend to take him up on the offer.

To answer your question about those staff members that had got on my nerves a bit, they are giving me no more trouble. However many of them are my enemies. I am of the opinion that the demonstrators regard the research students here with very little favour and try and put little obstacles in our path. There is one demonstrator on whose chest I should like to do a Maori war-dance, and which I will do in the future if things don’t mend.

The Prof and his wife are wonderful. He is very pleasant in conversation and not fossilised at all. He asked me up to lunch to Scroope Terrace where I saw his wife, a tall, dark woman, rather sallow in complexion, but very talkative and affable.

I like Mr and Mrs both very much. She tries to make me feel at home as much as possible, and he will talk about all sorts of subjects and not shop at all.

Mrs Thomson has been very kind and looked me out some lodgings with a widow. My success here will probably depend entirely on the research work I do. If I manage to do some good things, Thomson would probably be able to do something for me. I am very glad I came to Cambridge. I admire Thomson quite as much as I thought I would, which is saying a good deal.

The Prof also looked after my interests and obtained a substantial reduction in fees. He has strongly advised me to join a college (Trinity) to command more influence. You have heard me talk of the Physical Society, the Prof’s pet society. Well, he has asked me to give an account of some of my work before it. Usually it is only well known people, Profs and such like, who shine before the society, so I appreciate the

honour of being asked. It is my chance of getting a little lift up on the scientific ladder, and I intend to make as good use of it as possible.
I have not told you that I will be publishing some of my work before long. I spoke to the Prof about it and he said I had better send it to the Royal Society.
Please write soon and tell me about how things are in Christchurch
All of my love
Yours
Ern.

“Now back to reading”, thought Ernest. “I must finish reading Professor Rontgen’s paper, so I am not left behind in this race to discover more about these mysterious rays. Who knows where it might lead?”

Discussion questions

- 7) What difference did JJ and his wife make to Ernest?
- 8) What does the comment about a Maori war-dance mean and why did Ernest feel like this?
- 9) What evidence is there that Ernest was ambitious?
- 10) Why might Rontgen’s wife thought she had seen her own death?