McLENNAN: A PIONEER OF CANADIAN SCIENCE

Sir John Cunningham McLennan

A Memoir. By H. H. Langton. With a Chapter on his Scientific Work by E. F. Burton. Pp. viii + 124 + 13 plates. (Toronto: University of Toronto Press; London: Oxford University Press, 1939.) 11s. 6d. net.

IT requires a mental effort for the present generation of Englishmen when they see the highly industrialized communities on the other side of the Atlantic to realize how rapidly these have grown up. At a dinner given to the contributors to the eleventh edition of the "Encyclopædia Britannica", there was a printed paper of extracts from the first edition, and the entire article on Canada ran somewhat as follows: "*Canada*. A vast wilderness to the north of the American Colonies." When Sir John McLennan began his career, Canada had indeed made some progress in geology, and perhaps in other branches of natural history—but Canadian physics was practically non-existent. His biography is a valuable contribution to the history of how it came into being, and his work, combined with the work of Callendar and Rutherford at Montreal, is perhaps the most important part of the story.

In this book, we can learn what has scarcely been known in England, the story of his early years and the difficulties he had to overcome to get such training in physics as could then be had in his native country. It is an interesting question how far men with real scientific aptitude can be kept back for want of early opportunity. McLennan, though of course scarcely to be classed with Faraday or Pasteur in achievement, accomplished fine work with little more initial advantage than fell to them. It was when he arrived at the Cavendish Laboratory in 1898 that I first had the privilege of knowing him. His manner had the same quiet impressiveness as later. Not that he, or any of us, were unduly solemn for our years: I remember Rutherford asking if he had brought his scalping knife with him.

We were all impressed in those early days with McLennan's dogged tenacity in the rather difficult piece of work assigned to him. This book brings out what great energy he put into everything he set his hand to. It is interesting to learn that he sometimes had regrets that he had not found his way into politics. He might well have succeeded in it, for he was at least as much at home in dealing with men as in struggling with physical apparatus. In particular, McLennan had genuine interest in, and friendship for, young people, and

at once established the right relation with them. No doubt this was a great factor in his success in building up the School of Physics in Toronto.

His best scientific work was his identification of the origin of the green auroral line. This and other parts of his scientific work are relegated for the most part to an appendix by his successor, Prof. E. F. Burton. I think, however, that it is a pity that this subject was not treated more freely and fully. The way that this line appears bright and apparently isolated when the aurora is examined in a pocket spectroscope, while at the same time not a trace of it can be seen in the spectrum of any of the atmospheric gases, or of air itself as ordinarily observed, formed a most stimulating mystery, far more intriguing than the artificial mysteries of detective stories. It had puzzled two generations of physicists. McLennan solved it, and this by itself ensures that his name will not be forgotten.

The work that was done in the Toronto laboratory was nearly all published by McLennan jointly with younger authors. He explained to me that he was only too glad to let them work out their own problems in their own way and publish independently if they were able; but he found that they nearly always came to him for guidance as to what they should do, and how they should do it. He sat up late night after night reading contemporary papers from the literature, to get suggestions for the work to be done, and the burden of this, on the top of teaching and administrative duties, became very heavy as the years went on. In the early days of his retirement, he appreciated the relief of discontinuing it. But his retiring years were clouded by domestic anxiety and bereavement. He bore up bravely, and as well as he was able. But he said that things no longer seemed worth while.

It is a matter of satisfaction that a connected account of his career should now be available. We could have wished that more of his talk, his methods of work, and his reaction to things and people could have found a place in the record. Kindly though he was to his friends, he was not averse to explaining how he had got the better of anyone who opposed or obstructed him. But it is regrettably seldom that anything of that kind finds its way into a biography. The difficulty is that for so long as such things are fresh in living memories which can relate them, there are the susceptibilities of living people to be considered

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