

Maxwell's Cambridge Lectures treated of Heat, Electricity, Electro-magnetism, and were brilliant and greatly enjoyed by those advanced enough in mathematics to understand them. The result of his work in Cambridge was, that Physical studies were pursued with new impetus, and were directed into more fruitful channels. Through him, something of the spirit which has long rendered the great German Universities so fruitful in the cause of scientific research, was infused into the great centre of scientific education in England, where learning, by living on itself, and still somewhat enchained by the traditions of mediæval scholasticism, had become stagnant, certainly in Maxwell's department. Thus, in England the tendency of the University examinations is to determine how many difficult problems, linguistic or mathematical, a man can solve in a given time. Vast time and energy are expended upon furnishing the student with the implements of learning and acquiring dexterity in their use. In Germany, more effort is expended upon infusing the student with the love of research, for its own sake, and in turning his attention to problems to which learning needs to be applied. The examination turns on his philosophical grasp of the subject and his ability to do original work, quite as much as upon his mastery of technical details. The student comes out of an English University like a perfect steam engine, polished in every part. The German student is perhaps less highly polished, but he is an engine hitched on to a train of cars and going somewhere. It is to be hoped that the Universities planted on Canadian soil, untrammelled by tradition will be able to retain all that is worthy and useful in the ancient English University, and also incorporate in it all that is beneficial in the German.

While Maxwell was infusing this new life into the science of Cambridge, he kept warm his interest in literature and philosophy, by reading occasional essays before a circle of congenial Christian scholars, which numbered among its members the theologians, Lightfoot and Westcott. During one of his vacations he interested himself in establishing a public school upon his estate in Scotland. In 1878 he delivered a public lecture on the Telephone, in which he took a new interest.

His chief scientific works were his treatises on Heat, Electricity and Magnetism, and a small book, entitled, Matter and Motion. Some of the best articles on Physics in the last edition of the Encyclopædia Britannica are from his pen; and there is scarcely a recent scientific work of importance, on Optics or Electricity or Heat, in which traces of the result of Maxwell's investigations may not be found. But his contributions to scientific literature also concerned Elastic Solids, Pure Geometry, Mechanics, Molecular Physics and Saturn's Rings. The value of these works can hardly be estimated excepting by those sufficiently acquainted with Mathematical and Experimental Physics to understand the difference between that science as Maxwell found it and as he left it.

In Oct. 1879 (age 48) his health began to fail and his physician told him he did not have a month to live. During that month he took a deliberate look into the future, and the words which he exchanged with Christian friends on the great question have been presented to us. Some of these will now be given. He loved to quote Baxter's lines:

"Lord it belongs not to my care,  
Whether I die or live;  
To love and serve Thee is my share,  
And that Thy grace must give."

While the communion was about to be privately administered to him by a Church of England minister in his priestly vestments he repeated George Herbert's poem on Aaron:

"Holiness on the head,  
Light and perfection on the breast,  
Harmonious bells below, raising the dead  
To lead thee unto life and rest,  
Thus are true Aarons drest."

In a conversation with Prof. Hort of Cambridge, he said: "I have been thinking how very gently I have been always dealt with. I have never had a violent shove in all my life. The only desire which I can have is like David, to serve my own generation by the will of God, and then fall asleep."

To another friend he remarked, grotesquely. "Old chap, I have read up many religions. There is nothing like the old thing, after all. I have looked into most philosophical systems and I have seen that none will work without a God."

His aunt who had known him during his early life, said, on the occasion of his marriage, "James has lived hitherto at the gate of heaven," and the testimony of those who knew him in the ripeness of his manhood, and later, when death was knocking at the door, was scarcely different.

As his biographer remarks, his character was a rare union of opposites—or of such traits as are rarely united in smaller men: gentleness and penetration, mental activity and repose, purity and righteous indignation, reserve and frankness, belief in the equality of men and yet sincere respect for worth in high or low, fearlessness in speculation but conservatism in practice, independence in the formation and expression of opinions yet loyalty to the truth. He possessed a lofty imagination, and yet loved the concrete and the real. He believed in the finite and saw beneath it the infinite. He associated freely with scientific men of all opinions, in hearty sympathy with their science, but not with their unbelief. He lived in the world yet was he not of the world. He loved mathematics and was fond of poetry. His appreciation of literary beauty went hand in hand with his admiration for mathematical exactitude. Life was an earnest thing for him and yet he was playful. He rose above all denominationalism, and while surrounded at Cambridge by ministers of the Church of England and in cordial fellowship with them, he worshipped at Glenlair with the plain country folk, and sat with them at the Lords' table in a Presbyterian church, and when in London he often attended a Baptist church. A personal Christ was the centre of his life, and Him he served in the station to which God had called him—the Professor's chair and the Physical Laboratory of a great English University—doing whatever he there did unto the Lord, and not unto men.

We have taken a hasty glance at the works and lives of two of the foremost men of science which England has produced during the last half-century—Darwin and Maxwell. The one has done something to show us that all plants and animals constitute a vast and complex net work of interdependent relations governed by