

Patrick Maynard Stuart Blackett 1897 - 1974

Awarded the Nobel Prize for Physics in 1948

Patrick Maynard Stuart Blackett was one of the most distinguished British physicists of the 20th Century. He is known for his improvements with the Wilson cloud chamber and for his study of the Earth's magnetism. He was awarded the Nobel Prize for Physics in 1948 for the development of the cloud chamber into a practical instrument for the investigation of cosmic rays and fundamental particles.

Blackett was born in Kensington, London, in 1897. His father was a stockbroker. His mother came from a family which had served in India at the time of the Indian Mutiny. As a child he was very interested in nature, especially birds. At the age of 9 he was sent to a small preparatory school. Following the maternal family tradition he decided to start a naval career. When he was 12 years old he entered first the Osborne Royal Naval College and then continued training at Dartmouth.

Blackett began his naval duty when World War I broke out in 1914. He saw action at sea in the Battles of the Falkland Islands and at Jutland. After the war he and other young officers were sent to Cambridge for a six-month course of general studies. So Blackett found himself in Magdalene College. After a visit to the Cavendish Laboratory he decided to leave the Navy to become an undergraduate student of physics.

His scientific career began in the autumn of 1921 as a research student under Rutherford who was the head of the Cavendish Laboratory, one of the world's foremost centres of physics. Rutherford put him to work with the Wilson cloud chamber. A cloud chamber is a cylinder filled with supersaturated water vapour. The cylinder is set between the pole of an electromagnet. When charged particles are fired into it, the water vapor condenses on the resulting ions and creates traces which can be photographed.

With the help of a modified chamber Blackett succeeded in making a photograph of an atomic transmutation, which was of nitrogen into an oxygen isotope.



Blackett served in the sea battle at Jutland in 1914

He contributed to the idea of 'Continental Drift'.

In 1932 Blackett, in collaboration with the Italian physicist Occhialini, designed a new instrument by combining a cloud chamber with two Geiger counters. This apparatus allowed a reduction in the huge number of photographs usually taken because it worked just when the Geiger counters were triggered by a particle. With this device they studied cosmic rays and found the pair production of electrons and positrons by γ -radiation.

In 1937 Blackett was appointed to a professorship in Manchester and finally at Imperial College, London. During World War II he served the Admiralty as a researcher into naval problems. But Blackett opposed Britain's effort to develop its own nuclear weapon, and, though he supported the American bomb project, he was highly critical of Allied nuclear policy during and after the war. He was branded as a near-Communist. He returned to public service just after the election of a Labour government in 1964 but he was too inexperienced to be an effective politician.

After the war his interest had turned to fundamental problems in magnetism. In 1951 he assembled a research group to study the magnetism of rocks and in a few years he confirmed that 150 - 200 million years ago the land mass which now formed Britain was in a position near the Equator.

Blackett became President of The Royal Society in 1965 and a life peer in 1969, but spoke only four times in the House of Lords.

In 1924 he married Constanza Bayon, by whom he had a daughter, Giovanna, and a son, Nicholas.

He received numerous awards in addition to the Nobel Prize, including twenty honorary degrees.

