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Marcus Oliphant Dies at 98; Helped Develop Atom Bomb

By WOLFGANG SAXON

r. Marcus Oliphant, Australia's leading nuclear physicist and a key figure in the making of the atom bomb - a creation he came to loath = died Friday in Canberra. He was 98.

Dr. Oliphant entered the field in England under the guidance of Ernest Rutherford, director of the famous Cavendish Laboratory at Cambridge University, where the atom was first split by artificially accelerated particles in 1932. The center was a world leader in nuclear and experimental physics. Dr. Oliphant, known Marcus Oliphant as Mark, became its assistant director of research in 1935.



He investigated nuclear disintegration and made his reputation with the design of heavy highvoltage apparatus. With the equipment he was able to produce intense beams of protons and of the nuclei of heavy hydrogen, and then study their interactions with light nuclei.

The sheer intensity of the beams made it possible for him to study such events at far lower voltages than had been required before. What was particularly significant was his work with the lithium nucleus, in which he separated the two lithium isotopes by electromagnetic means.

Working as a team, he, Lord Rutherford and Dr. Paul Harteck drew worldwide attention to Cavendish in 1934 when they discovered a third type of hydrogen. Known as triple-weight hydrogen, or tritium, its existence had been suspected, but it took them and their atom smasher to prove it.

Dr. Oliphant was named director of physics laboratories and Poynting Professor of Physics at Birmingham University in 1937, posts he filled until 1950. He first visited America in 1941 in connection with his work on what became radar. In 1943 he was chosen to lead a group of British scientists to the United States to share their advanced knowledge of nuclear physics with American colleagues.

The group joined the profoundly secret workings of the Manhattan Project, which built the bombs dropped in 1945 on Hiroshima and Nagasaki, ending the war against Japan. The reality of such bombs destroying whole cities and their people so horrified Dr. Oliphant that he was to observe later that his part in their creation had made him a "war criminal."

For the rest of his life he pressed for the peaceful use of atomic energy and spoke out against all weapons capable of mass destruction. Starting in 1945 he insisted that the world must "get rid of war or die," and that the use of nuclear arms would be a "moral crime."

Using nuclear weapons, he said, was "a dirty, rotten way to kill people" that could not be justified "in any circumstances," even in retaliation. The West, he said in 1950, was "foolish" to engage in a nuclear arms race with the Soviet Union.

The following year he was blocked from attending a conference in Chicago. His visa application had not been rejected, but no visa was forthcoming, a predicament he shared with the author Graham Greene and Dr. Ernest Chain, who won the Nobel Prize for his work on penicillin.