



THE  TIMES

Lorna Arnold



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Single-minded historian of Britain's nuclear weapon programme who was given unprecedented access into a secret world

Lorna Arnold was one of very few people to make a study of the secret history of Britain's nuclear weapon programme. A single mother of two who for a time had to support herself working in a biscuit factory, she had a second career as the official historian for the United Kingdom Atomic Energy Authority and was granted 30 years of unrestricted access to sensitive and classified documents.

Bright-eyed, sharp and single-minded, she developed good working relationships with senior scientists and was supported in her research by the Ministry of Defence too. She co-wrote the first authoritative accounts of Britain's nuclear programme after 1945 with another official historian, Margaret Gowing, and went on to tackle early British nuclear testing in Australia, the H-bomb project and the Windscale disaster — when fire ripped through Britain's first nuclear reactor releasing radioactivity that contaminated large areas of the country.

Arnold rapidly established a reputation for meticulous research but did not shy away from controversy. She believed that setting the record straight was part of her job as a historian and was critical of the nuclear industry for being too secretive in the past. "The one thing that is really most harmful is to try to hush anything up and not have a debate," she said. However, she understood the industry's defensiveness. "After the nuclear spies — Klaus Fuchs, Bruno Pontecorvo and the others who supplied the Soviet Union with information about the West's nuclear research — there was a paranoid fear of letting out information . . . It became a culture and difficult to change," she said.

Her book on the Windscale accident of 1957 contradicted the government White Paper that followed the incident. The White Paper criticised the Windscale staff for their part in the events. However, Arnold concluded that the fire was an accident waiting to happen and that the staff acted with "outstanding courage, resourcefulness and devotion to duty". She was angry that their

actions “were publicly blamed, at the highest level, as contributing materially to the fire”.

Arnold’s extensive knowledge of Britain’s nuclear weapons and their effects led her to argue for multilateral nuclear disarmament. She had lived through a century of conflict and her earliest childhood memories had been watching her father’s airship patrol the skies above East Yorkshire during the First World War.

A thoughtful, gentle person with a delightful sense of humour, she was always willing to help others understand the difficult issues raised by nuclear weapons. She was still working into her nineties, publishing a memoir, *My Short Century*.

Lorna Arnold (née Rainbow) was born in 1915 in London while her father was away fighting in Flanders. She was wrapped in a towel and put to bed in the bottom drawer of a tallboy as she had arrived unexpectedly. After the war, her father became a farmer and the family, which eventually grew to five children, settled in an isolated farmhouse near Guildford, Surrey. Arnold went to Guildford County School for Girls before winning a scholarship to Bedford College, London University, a women-only college.

She did a teacher’s training course at Cambridge and taught English and Latin in a school in the Midlands, but was not suited to the role and resigned after the Second World War began. She was soon recruited to the War Office — now the Ministry of Defence — and then transferred to the Foreign Office, to become part of the team planning for the occupation of Germany. At the end of the war she was posted to the British Embassy in Washington as a diplomat.

She met here an American recording engineer and organist, Robert Arnold, who she married in London. He later left her. Now a single mother with two small boys, she found various temporary jobs — including at a biscuit factory — before joining the UKAEA in 1959 working on a committee on training in radiological health and safety. With no scientific background she had to learn fast.

She joined the small UKAEA history office in 1969 and began to flourish as a nuclear historian. Her first book, *A Very Special Relationship*, described the five series of nuclear weapon tests, code-named Hurricane, Totem, Mosaic, Buffalo and Antler, that Britain conducted in Australia in the 1950s.

The tests were of considerable significance because it was the only time that a country with no nuclear weapons of its own, Australia, enthusiastically co-operated with the nuclear testing programme of a nuclear weapon state. The extraordinarily pro-British Robert Menzies was Australia’s Prime Minister at the time.

The first test took place at Monte Bello Island, West Australia on October 3, 1952. A nuclear weapon, with an explosive yield equivalent to that of 25,000 tons of TNT — similar to that of the bomb that destroyed Nagasaki — was exploded aboard a warship, HMS *Plym*, in a 12-metre deep lagoon. Over the next four years 11 more nuclear weapons were exploded, including seven at Maralinga Range in the South Australian Desert.

In addition to these tests, Arnold described a series of “minor” trials, codenamed Vixen, to investigate the safety of British nuclear weapons during their manufacture, storage and transport. Carried out at Maralinga Range, they did far more environmental and radiological damage to the landscape, dispersing plutonium, a very toxic substance if inhaled, and uranium over 100 kilometres. When Maralinga Range was being considered, the official story was that the site was uninhabited. In fact, Tjarutja people have always criss-crossed the land. Despite eight attempts to clean up the contamination some experts believe that it has not been effective and Aborigines are in danger of serious exposure to radiation.

In *Britain and the H-bomb*, Arnold comprehensively related the testing of British thermonuclear weapons at Christmas Island in the Pacific, culminating in the 1957-1958 test series, code-named Grapple, demonstrating that Britain had mastered the technology of thermonuclear explosions. Arnold, after interviewing many of the scientists working in Britain’s nuclear weapon programme, concluded that most of them believed that they were working for national defence and world peace.

Her research took her all over the world from the Atomic Weapons Research Establishment at Aldermaston, Berkshire, to Russia.

She was appointed OBE and lived in Oxford. She is survived by two sons: Geoffrey, a cloud computing architect, and Stephen, who works at the Bodleian Library.

Lorna Arnold, OBE, historian, was born on December 7, 1915. She died after a stroke on March 25, 2014, aged 98

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