

## **SEBASTIAN PEASE OBITUARY**

### **A pioneer and advocate of nuclear power, he passionately opposed nuclear weapons.**

Sebastian (Bas) Pease, who has died aged 81, was a distinguished physicist and a remarkable man. The director of Britain's fusion research programme at the United Kingdom Atomic Energy Authority (UKAEA) for many years, he was a leading member of the Pugwash Group, the international movement of scientists concerned about the social impact and misuse of science.

His scientific expertise and social conscience echoed his family background, with its Quaker roots. His paternal grandfather, Edward Reynolds Pease, was a co-founder of the Fabian Society and of the Labour Party. His father was a geneticist, while his mother was the daughter of Josiah C. Wedgwood, who became a member of the first Labour Cabinet. Pease was educated in the stimulating and liberal atmosphere of Bedales school and took a degree in physics at Trinity College, Cambridge.

In 1942, he joined the operational research unit at the headquarters of RAF bomber command, High Wycombe, where he worked on the development of "blind" bombing equipment and the use of aluminium "window" foil to deceive the German rada4s over the location of the D-day landings. He moved to the general physics division at Harwell in 1947 to work on solid-state research, producing some of the classic work on radiation damage and neutron diffraction.

His main work on controlled nuclear fusion started in 1955, when, still at Harwell, he became leader of the physics research section, and later came to play a leading role in the Zeta (Zero Energy Thermonuclear Assembly) research team, which worked on the containment of hot plasma in a toroidal (doughnut-shaped) magnetic field. (When the results of his work there were published, the Daily Mail placed him on its shortlist of the most attractive men in the world.)

The British fusion programme's work was transferred to Culham, Oxfordshire, in 1964, where he became division head and later, in 1967, Director of the Culham Laboratory. Budget cuts and difficult times followed, but he managed to ensure that Culham maintained a broadly based fusion programme, including the initiation of a programme of commercial research in which Culham's skills were put to the needs of industry.

Notwithstanding the Cold War, Pease collaborated with Russian fusion experts, which was crucial in establishing the credibility of their tokamak – a pioneering plasma containment concept – claims. Pease formed a close and life-long rapport with their leader, Lev Artsimovich.

In 1970, he opened a dialogue with Euratom (the European Atomic Energy Community) on British participation in its programme, though Britain was not yet a member of the European Community. When Britain did join, in 1973, Culham became involved in the Joint European Torus working group (Jet), and Pease pushed for the tokamak experiment to have a more ambitious design objective, to achieve a full-scale demonstration of thermonuclear fusion. He was subsequently involved in a long political wrangle over the location of Jet, and deserves much of the credit for the eventual decision of the EU council of ministers in 1977 that it should be at Culham.

While Jet remains the world's leading fusion research apparatus, Pease was already pushing for its successor, Iter (international thermonuclear experimental reactor), itself now quagmired in geopolitical debate. He retired in 1988.

His many honours included election to the Royal Society in 1977 (he became a council member and vice-president), and the award of the Glazebrook medal, the premier award in Britain for physics, in 1989. However, with his exceptional combination of long-range vision and tactical skill, his outstanding contribution to the British fusion programme was as a manager of what had become "big science". In the nuclear debate, Bas was a crossbencher – a strong advocate for the use of nuclear power, but equally opposed to nuclear weapons. He was a prominent member of the British Pugwash Group and a member of its international council when the Nobel Peace Prize was awarded jointly to it and its then president, Joseph Rotblat, in 1995. He contributed to a number of Pugwash publications, including one giving the case against the replacement of Trident.

Bas was very much a family man, His first wife, Susan, had five children, and he used to take the whole family, including grandchildren on holiday – though was sometimes heard to mutter that "a round of ice cream would set you back." Accomplished on both the clarinet and piano, he played in the Newbury amateur symphony orchestra. He also loved walking and entertaining his friends in his Berkshire home.

After Susan's death in 1996, he married Jean, whom he had known at Culham. She died in 2000, and he married Eleanor, who survives him along with his three sons and two daughters.

### **Robert Hinde and Joseph Rotbat**

*Rendel Sebastian Pease, physicist  
Born 2 November 1922; died 17 October 2004.*