

**Joseph Rotblat's return to Liverpool  
University, the Chadwicks and  
development of nuclear physics in  
the UK**

**Martin Underwood**

**HPS Cambridge University and Sub-Dept. Particle  
Physics Oxford University**

# Summary

- Walked out of The Manhattan Project: 1944
- Aileen Chadwick's letter: January 1945
- February 1945 Rotblat's memo on nuclear research work
- Plans for Liverpool and Cambridge cyclotrons
- New building in Liverpool

# Rotblat's Plans

- Some nuclear work of use in post-war regeneration
- Liverpool : good cyclotron, personnel, new establishment, synchro-cyclotron
- Cambridge : Research, new R. F. Transmitter for cyclotron

# Chadwick's concerns about Rotblat's well being

- James Chadwick's letter : April 1945
- Warns of peril associated with brother-in-law
- Naturalisation
- Return to Poland

# Post Hiroshima reaction

- Aileen's letter : 14 August 1945
- Hiroshima bomb: 6 August 1945
- 'much jubilation at success'
- 'my Jamie is proved right and not just a silly scientific crank'
- 'Liverpool no doubt basks in reflected glory'

# Concerns continue

- James's Letter : December 1945
- Rotblat's family cannot be part of quota for Palestine
- Cannot bring all six relations to England

# Nuclear Work

- Liverpool University 1945-50 cyclotron upgraded-9 MeV deuterons
- Photographic plates as detectors
- Graphite pile
- Compound nucleus studies
- Deuteron stripping reactions
- Synchro-cyclotron

# Contributions

- Nuclear Committee
- Chair of The Accelerator Panel
- Chair of The Photo-Emulsion Panel



# Move Away

- Move away from nuclear physics to medical applications
- $^{131}\text{I}$  experiments to determine presence of goitre rather than tumour in the thyroid
- Move to St. Bartholomew's Medical College 1950
- Issues surrounding election to FRS

# Conclusions

## **James Chadwick had major influence on Rotblat's career and professional life**

- James and Aileen Chadwick had considerable interest in Rotblat's welfare and that of his family
- Difficult to overestimate their influence
- Remark of Chadwick to Cockcroft