

# Sir John Adams

## 1920-1984

*The man and the project. John Adams with an aerial photograph of the Geneva region, showing the position of the 2.2 km diameter ring of the Super Proton Synchrotron. It was largely thanks to him that the project got under way in this form, satisfying the demands of the CERN Member States and securing the long term future of CERN.*

*(Photo CERN 117.11.73)*

CERN, and the whole machine physics community throughout the world, were shocked at the news of the death of Sir John Adams on 3 March.

In his life's work as an accelerator builder and a leader of men, John Adams stood amongst the greatest. He was one of the pioneering group of machine physicists who moved to Geneva in 1953, under the auspices of the fledgling CERN Organization, to take up the challenge of designing and building an accelerator to reestablish Europe's scientific, and particularly physics, prestige, shattered by the war years.

At the age of 34, his abilities and leadership were already so apparent that in 1954 he was appointed Director of the Proton Synchrotron Division, to oversee construction of the new machine. Despite the additional complexities of operating in a novel international Organization and of having to lead a multinational team, he achieved all his objectives. The Proton Synchrotron reached its design energy of 25 GeV in 1959, the first machine of its type to operate, ahead of the equivalent machine being built by a more experienced team at Brookhaven.

It testifies to his skill that not only did the PS go on to exceed all its design parameters, but twenty-five years later, it remains the king-pin of CERN's accelerator complex, and will continue to do so for the foreseeable future. Despite the exigencies of new and bigger machines, the PS has continually risen to the occasion.

Following the sudden death of Cornelis Bakker in 1960, John Adams was appointed CERN's Director General for a brief period, leaving the following year to set up a new Laboratory for thermonuclear fusion research at Culham in the UK. This Laboratory developed into a flourishing concern, and is now the home of the



JET — Joint European Torus — experiment. Although assured of a distinguished career in UK science policy management, John Adams was lured back to CERN in 1969, to become Director of the '300 GeV' project. This was in considerable difficulties at the time, but thanks to his skill and political acumen, the project was recast and proposed for construction alongside the existing CERN Laboratory, rather than at another site in Europe. As well as gaining the approval of CERN's Member States, this step ensured the future of CERN as a leading world Laboratory.

He was appointed Director General of this new 'CERN Laboratory II' to house the new accelerator, which came to be known as the Super Proton Synchrotron. Again, the design and construction of this mammoth project bore the stamp of his skill as a machine physicist and his stature

as a team leader, despite a tight schedule and a strict budget.

When the two CERN Laboratories were united in 1976, John Adams was appointed Executive Director General, alongside Leon Van Hove as Research Director General. He held this position until 1980. During this third period in office, he helped steer CERN through the changing and frequently difficult financial and social climate in Europe. Despite this, the period saw the birth of both the anti-proton project, which has produced such exceptional scientific fruit, and the LEP electron-positron project for the future.

As one who had built international projects with international teams, John Adams was a champion of internationalism, and made important contributions to world-wide scientific collaboration. No political or economic difficulties seemed able to deter him.

# Intersecting Storage Rings bow out

With such a distinguished career, John Adams was showered with academic and national awards — honorary degrees, scientific prizes and medals, fellowships of learned bodies, and his knighthood in 1981.

The success of CERN, both as a scientific laboratory and as an example of international collaboration, remains as a lasting tribute to John Adams, who contributed so much to the Laboratory, its development and its work.

On 27 January 1971 at CERN, two proton beams collided for the first time in the newly completed Intersecting Storage Rings (ISR). Hadron colliders had arrived. The same date 13 years later saw the last meeting of the ISR Experiments Committee, marking, in CERN Director General Herwig Schopper's words — 'the formal end of a glorious chapter of CERN's history'.

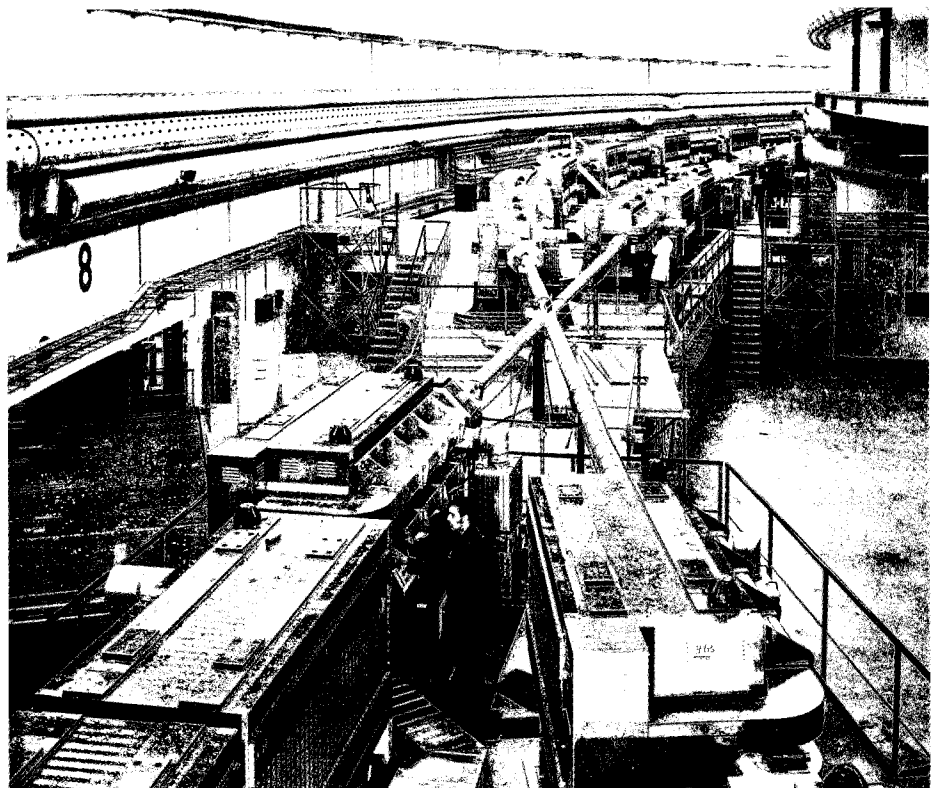
The premature closure of the ISR came as a result of budget restrictions imposed by the construction of the LEP electron-positron ring at CERN. To build LEP within constant budgets, something had to go. Thus at the end of last year, the ISR had its final taste of colliding beams. However sophisticated experiments were taking data right up to the last minute, and the accumulated tapes could still turn up additional interesting physics results to add to the score. The machine went out in a

blaze of glory, and did not suffer the humiliation of indifference and apathy.

## *The machine*

The key development which paved the way for hadron storage rings was the invention of beam stacking by the US Mid-Western Universities Research Association (MURA) in the mid-1950s. This work was picked up at CERN's Accelerator Research Group (later Division) and led in turn to a study of a model 100 MeV electron machine, and later the CESAR electron storage ring, operated in the mid-1960s.

In the early 1960s, a formal CERN proposal was put forward for twin rings to store two 25 GeV proton beams from the PS (and possibly other particles too). This proposal gathered momentum, benefiting also from the French Government's



*In the beginning. The bare ISR 18 intersection in 1970. Compare this with the photo on p. 96!*

*(Photo CERN 91.8.1970)*