Mervyn Hine retires

Mervyn Hine, one of CERN's founder members, retired at the end of May. He came to the Laboratory, together with the late John Adams, in 1953 and played a leading role in the design, construction and commissioning of the 28 GeV Proton Synchrotron.

On completion of the machine, he began a ten-year period of major responsibility in the CERN hierarchy working with Directors General Adams, Weisskopf, Gregory and Jentschke. Viki Weisskopf, in particular, paid tribute to Hine as being the powerhouse behind the work of the CERN management at that time.

He has contributed to accelerator development, to project presentations, to establishing financial procedures and to promoting developments in the Laboratory infrastructure (like the use of big computers, networks, high speed data links and office automation). His thinking and his forward vision have helped CERN to be ready when 'the future' arrived.

Mervyn Hine is one of the pioneers who created CERN and who helped forge its particular character from which the Laboratory is now reaping the benefit.
Mervyn Hine 1920–2004

Mervyn Hine, one of the early pioneers of CERN, passed away on 26 April following an accident at his home in Switzerland. He was born in 1920 in Berkhamstead, England, and at the age of 16 went to King’s College, Cambridge, to study physics, where he was awarded a first-class degree after only two years. During the Second World War he worked on radar research in Malvern with John Adams, who was later director-general of CERN. Following the war, Mervyn completed his doctorate at King’s College and afterwards carried out pioneering work on particle accelerators at the Harwell Laboratory. In 1952 he, John Lawson and John Adams published a seminal paper on the management of resonances that pointed the way forward in the design of big machines.

In 1953 Mervyn and Adams moved to Geneva to work at CERN on the Proton Synchrotron (PS). Mervyn made essential contributions that shaped the strong focusing (or alternating gradient) principle into a practical design for an accelerator that could be built, albeit with extreme attention to accuracy. As a result, the PS could attain over 25 GeV rather than the 10 GeV possible with the conventional choice of weak focusing. Mervyn served as Adams’s alter ego, and together they formed an outstanding pair of leaders for the first generation of CERN machine physicists and engineers. They were often referred to as “the Harwell twins”.

Early in 1960, with the PS commissioned, Mervyn became director for applied physics, first under John Adams as director-general and then under Victor Weisskopf, who succeeded Adams in 1961. A close collaboration ensued and Mervyn’s role expanded well beyond applied physics, in particular to medium-term planning for the whole laboratory. Weisskopf confided in Mervyn and sometimes would ask advice if he felt he had made a mistake or hurt someone. Mervyn’s answer, often quoted later by Weisskopf, would be: “Put your regretter on zero.”

In early 1962 CERN Council set up a working party under Dutch delegate Jan Bannier to address a budget overrun crisis. With his assistant Gabriel Minder, Mervyn designed and implemented CERN’s Functional Programme Presentation, a high-level planning instrument with a formal four-year rolling procedure (described in Mervyn’s article written shortly before his death; CERN Courier June 2004 p17). As he said later: “I was amused how, by plotting national-science cost forecasts on logarithmic paper, their straight-line 20–25% per annum growth rates surprised the group and made our proposed 13% increase look modest.” Without this, it is unlikely that the member states would have accepted funding simultaneously three CERN programmes with yearly growth percentages in two digits. This was particularly important for building the Intersecting Storage Rings (ISR), regarded as “unwise” by laboratories in the US, who would not fight for the necessary funding but adopted a “wait and see” attitude.

Mervyn loved l’esprit français – he regularly read Le Monde and Le Canard Enchaîné and knew every bit of French official politics and gossip. This made him a natural planning companion of Henri Laporte, the leader of CERN’s Site and Buildings Division in the late 1960s and 1970s. Mervyn would often meet Laporte in the cafeteria for breakfast, and that is where CERN’s building programme would develop informally. As Laporte said recently: “Mervyn amazed me with his curiosity and enthusiasm for new topics, technical or not. His insights would be original, sometimes paradoxical but always useful.” Supervision of the whole building programme was also greatly helped by Mervyn’s excellent relationships with Bernard Gregory, the director-general at the time, and George Hampton, the director for administration (whose obituary Mervyn wrote in the May 2004 issue of CERN Courier (p39)).

Mervyn was even closer to Kjell Johnsen, his old-time friend in charge of planning both the ISR and the 300 GeV Super Proton Synchrotron (SPS). According to Johnsen, Mervyn played a vital part in the ISR project as an intermediary between the machine designers and the CERN management, particularly Weisskopf. Trusted and respected by both sides, his influence and judgement were often crucial. He had the technical ability to assess the machine’s feasibility and the political ability to convince others that this risky undertaking was justified. The great success of the ISR 30 years ago was the essential first step for high-energy physics to move from fixed-target machines towards the collider designs that dominate today. Along that path at CERN lay the SPS (modified as a collider), the Large Electron Positron collider and, now, the Large Hadron Collider.

From 1964–1971 Mervyn also supervised CERN’s computer development, recognizing that the advances in detector technology such as large bubble chambers required adventurous steps in data analysis and computing power that were not understood by many physicists. He arranged for CERN to receive one of the very first CDC 6600 supercomputers after long discussions with Seymour Cray, the American designer of the machine.

He was also involved in numerous high-level technical negotiations with multinational suppliers, always arguing that it was a major development opportunity for them to supply CERN, for which they should be prepared to pay! Mervyn’s financial talents also served the CERN pension scheme, via Georges
Tièche, Günther Ullmann and Kees Zliverschoon. He loved treating long-term pension issues in the same way as physics programmes, that is with rigour and a feeling for the human element. One of his last unfinished papers in 2004 is entitled: "Pensions in 2040."

After ceasing to serve as a director in 1971, Mervyn joined the Computing and Data-handling Division and worked on several forward-looking projects. Few people know that he was a main driving force behind the launch and development of CERNet, the first general-purpose local-area network at CERN which, beginning in the early 1970s, interconnected central mainframe and minicomputer systems on the site. This was an early step away from the chaos of heterogeneous networking standards prevailing at that time, almost a decade before the arrival of Ethernet at CERN and later the Internet.

From 1978–1983 Mervyn conceived and directed the STELLA satellite project, interconnecting six European laboratories at the then radical wide-area speed of 1 Mbit/s. As his deputy, I appreciated the political skill he showed as he dealt with entrenched monopolies such as the feared PTTs. For CERN to be permitted to transmit data from an antenna on the roof of the computer centre required weeks of negotiation, culminating (successfully) over a bottle of white Valaisan wine in the presence of the director-general of the Swiss PTT. I also observed Mervyn’s learning curve, one of the steepest in my experience. By the end of STELLA, apart from its project management, he knew every important technical detail, relishing particularly the elegant mathematics of the coding theory used to reduce transmission errors to acceptable values.

On retiring from CERN in 1985, he devoted much of his energy to assist his wife Jenny, the secretary of the International Association for Transactional Analysis. Mervyn served as the association’s treasurer and also helped to run the courses and meetings that Jenny organized in their home at Founeix, near Geneva.

Mervyn often visited the US, where his daughter Alison and grandson Benjamin live in Ann Arbor, Michigan, and England, where his daughters Jessica and Marion live in Suffolk. He did not particularly enjoy travelling but was very international in spirit, crossing European as well as intercontinental cultural divides easily, always with his sense of humour and curiosity intact and alive. We have no way to replace him but our memories of Mervyn are plentiful and full of vitality.

Many of Mervyn’s friends and colleagues, as well as his family members, have contributed to this article, which I have had the privilege of editing. Gabriel Minder provided the single largest source of information.