David Caminer

Computer pioneer who invented systems engineering and revolutionised J Lyons

David Caminer, who has died aged 92, was one of the leaders of the postwar computer revolution. When the modern electronic computer was invented in the last years of the second world war, it was seen as a technology that could help in scientific and technical computations - the first American electronic computer, Eniac, was designed specifically to help the military with the calculation of the trajectories of shells.

At that time, David was a soldier in the Green Howards, serving in north Africa. He was wounded at Mareth in Tunisia in 1943, losing a leg, and returned to civilian life by going back to his prewar job with J Lyons & Co, of teashop and Swiss roll fame. He had joined in 1936 as a management trainee. On his return, he was appointed manager of the influential systems analysis office under the direction of John Simmons.

In 1947 Simmons sent two colleagues, TR Thompson and Oliver Standingford, to study office innovations in the US. They came across the new electronic computers and realised that they could be used to solve the problems of keeping track of and accounting for Lyons' multiple activities in the catering and food processing world. Astonishingly, the idea was accepted by Simmons and the Lyons board.

A new venture, the Leo (Lyons electronic office), was started under the direction of Thompson: its task was to build and bring into use in Lyons offices the world's first business computer, based on the Cambridge University Edsac. David joined this band of pioneers and saw immediately that the computer could do more than copy what was being done in offices by clerks with conventional business machines. With proper design, the computer could be used to support management activities and improve the way the company was run. As a result, many of the systems designed by David and his team were as advanced in concept as any are today. For a brief period, the work at Lyons led the world in the application of computers to business problems.

As one of his team, John Aris, later suggested, David invented what we now call systems engineering. By 1953 the team, under David's detailed and imaginative guidance, were turning out a succession of business applications for Lyons and other companies, and in the following year the Lyons weekly payroll for nearly 1,700 bakery workers was automated, along with a stock system for the 250 teashops. The systems analysis office learned that successful systems depend on a complete understanding of the business processes being examined and the need to work with the people who operate them.

For those of us who worked for him, there was constant excitement as new ground was being broken. At the same time David's fierce and rigorous enforcement of meticulous standards could become a source of misery. He frequently drove his team to achieve the unattainable. By the time a piece of documentation had been returned to its author half a dozen times to correct the content, language and style,

frustration might have set in. But the lessons were learned. Working with David proved to be the most important period in our lives.

In the 1970s, with the merger of the various branches of the UK computer industry into ICL, David was entrusted with the management of one of the largest projects attempted at that time, for the European Community. For completing that project on time and budget, David received his OBE (for services to British commercial interests overseas) in 1980 and, in 2006, he received an honorary doctorate from Middlesex University. In his later years, he could not understand the prevalence of failed computer projects. Would the methods he devised in the early years, combined with his vision, have saved many of the failed or failing projects?

David retired in 1980, then set up the Leo Foundation and spearheaded the 2001 conference at the London Guildhall to celebrate the running of the world's first business application on a computer 50 years earlier at the Cadby Hall headquarters of Lyons. He was the principal author of Leo: The Incredible Story of the World's First Business Computer (1998).

Born in Hackney, east London, David went to Sloane school, Fulham, and was a keen rugby player in his earlier years. He never lost his love for cricket - he was a member of the MCC - football (Chelsea) and rugby union. He was also an opera lover. He and his wife Jackie were still going to concerts, plays and sporting events until his final illness. Though not a man of strong religious beliefs, he had a high regard for the traditions of the Jewish community, to which he was highly committed.

He took an active part in the battles against Oswald Mosley in the 1930s and 40s, culminating with his appearance as a platform speaker at a rally in Trafalgar Square rally in 1943. He continued to have a lively and trenchant view of politics. In later years, he took an active role in his local Labour party and spearheaded the Anti-Apartheid Movement, personally welcoming Archbishop Desmond Tutu to his borough of Richmond upon Thames in support of the campaign.

He is survived by his wife, two daughters, a son and five grandchildren.

· David Tresman Caminer, business computer engineer, born June 26 1915; died June 19 2008