As part of the CQI's centenary celebrations, *Quality World* will be looking at the past 100 years, focusing on each decade, to provide readers with an example of a major development that influenced the quality profession.

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LEADING QUALITY FOR 100 YEARS

The 1920s

The Birth of STATISTICAL PROCESS CONTROL

16 MAY 1924

In the early 1920's, WALTER A SHEWHART, a physicist, engineer and statistician from New Canton, Illinois, USA, prepared a notable memorandum which described the essential principles of **statistical quality control (SQC)** and which also contained a simple control chart, for Bell Labs, where he was working at the time. Shewhart's work emphasised the importance of reducing variation in a manufacturing process and of understanding that variation in production processes results in variation in final products.

1925

Statistician RONALD FISHER published the classic and influential book on statistical methods, *Statistical Methods for Research Workers.*

1927

Quality guru W EDWARDS DEMING began applying Shewhart's techniques more widely, including to non-manufacturing processes, and particularly to clerical, administrative and management activities.

In the late 1930s/early 1940s, Deming applied SPC principles to his work at the US Department of Agriculture. Around this time he also started to run courses for engineers and designers, including his and Shewhart's evolving **statistical process control (SPC)** methods. After the war he worked in Japan, helping industrial managers and workers to understand the value of statistical methods in improving quality. He returned to the US in 1980 and worked extensively in the motor industry.
Shewhart's work developing SQC cast a long shadow, influencing the work of Deming, and other quality gurus such as Taiichi Ohno and Shigeo Shingo in Japan and Professor John Oakland in the UK.

Shewart's work on SQC was a significant contributor to the later development of **Total Quality Management (TQM)**, developed in the late 1970s and 1980s. Additionally, **Six Sigma** was a further development of statistical approaches and methods to reduce variation and improve quality.

Illustration: Liz Kay