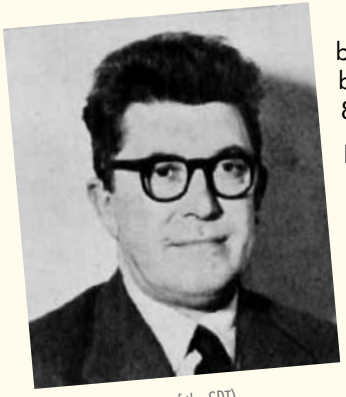
Tom Ashton and Reg Cuttell

Their contribution to the science and technology of milk processing

Alan Gall – IST Archivist

What do UHT milk, cottage cheese, and chocolate-topped yoghurt have in common? All were developed under the guidance of Tom Ashton for the Express Dairy Company. As one of the most eminent dairy scientists of his time, he served on many official bodies and continued to be active in the field after the age of 80.

Tom Ashton (courtesy of the SDT)



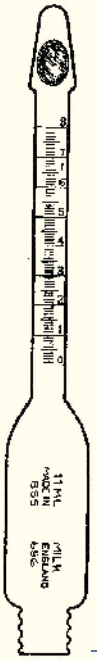
Reg Cuttell (courtesy of the SDT)

His friend and colleague, Reg Cuttell, also made his mark. He was the author of *HTST Pasteurization*, which became a standard work on the subject, and with Ashton a founder member of the Society of Dairy Technology (SDT). Together they formed the Astell Laboratory Service Company Ltd.

Dr Thomas Richard Ashton began his professional career as a bacteriologist with the Oldham Industrial Co-operative Society in 1934 after graduating from the University of Leeds. He returned to Leeds in 1939 to complete an MSc and worked on the bacteriology of milk for a PhD whilst at the Express Dairy Company.

At about the same time that Tom Ashton left university with his BSc, John Reginald Cuttell (known as Reg) became the first service engineer in the dairy engineering department of the Aluminium Plant and Vessel Co Ltd (APV). Evidence that Reg was already an innovative engineer comes from a patent for a variable speed gear, taken out in 1925 when he worked at Marryat & Scott Ltd. His role at APV brought him into contact with many in the dairy industry – including Tom Ashton.

Ashton and Cuttell decided to start a business together. Instead of using their own names in full for the new venture, they created a title by combining elements of their surnames to give Astell.

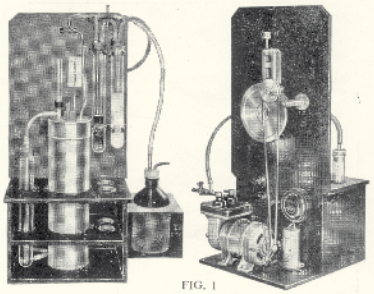


A butyrometer for the Gerber fat test. The tube containing milk or cream is placed in a centrifuge to separate the fat, the level of which can then be determined from the scale markings.

Arrangements for the formation of Astell Scientific Services started in 1949 and the firm received its certificate of incorporation as a limited company dated 5 September 1950. Reg Cuttell and Arthur Rowlands were the nominated directors.

Unlike most businesses, the founders did not take a hand in the daily activities since neither of them ever gave up their existing jobs. In fact, there is no evidence that Tom Ashton even held shares or a directorship. Patent applications make it clear that he was associated with Astell, perhaps as a paid consultant. The actual day-to-day functioning of the business fell to Arthur Rowlands who did give up his job to become a director.

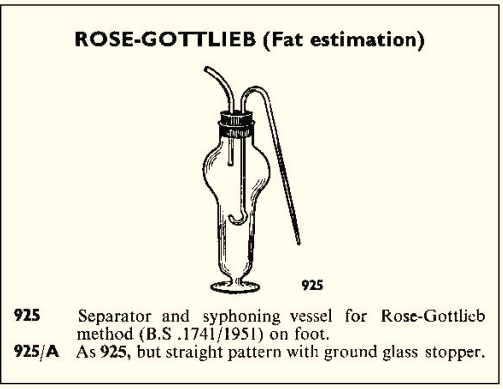
Arthur Rowlands had a good scientific background and experience of bacteriology. After graduating from Aberystwyth University with a degree in agriculture he was granted a two-year scholarship at the National Institute for Research in Dairying (NIRD). For the second year, in 1927, he went to the USA and successfully completed an MS degree at Cornell. After a spell at the Midland Agricultural College, Sutton Bonnington, as head of the Department of Bacteriology, he rejoined NIRD in 1946. Rowlands wrote many papers dealing with bacteriological aspects of milk and served several times as a member of Council for the Society of Dairy Technology over the period 1947 to 1958.



Astell's apparatus for the measurement of the freezing point of milk by Horvet's method

The home of Astell from the beginning, and for nearly forty years after, was 172 Brownhill Road in the London district of Catford. At the start of the 1900s this area was almost totally undeveloped and a visitor to the area would have found woodlands and open fields, with hardly a building in sight. But by the First World War Brownhill Road and dozens of other thoroughfares had been constructed.

It is clear that Astell came into being expressly to cater for the needs of research and analytical laboratories in the dairy industry. The combined expertise of Ashton, Cuttell and Rowlands helped establish the firm as more than just a supplier of standard items. One of the first pieces of equipment was the 'Roll Tube Apparatus' for bacteria counts. This had been devised by Cuttell and Ashton, and patented under the title 'Improvements in or relating to means for forming films from liquids'.

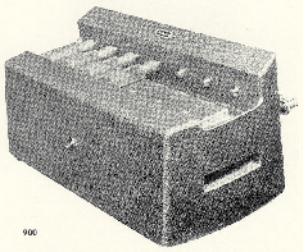


Apparatus used in the Rose-Gottlieb method of fat in milk determination as shown in the 1963 Astell catalogue

The niche market for diary product testing offered an international market and by the issue date of its tenth catalogue, about 1963, Astell had established agencies abroad in 14 different countries. Another event in the 60s was the arrival of Charles Neville Hillier to become joint managing director with Arthur Rowlands. Hillier brought with him Formglass Products Ltd of Hastings, glassblowers able to make the butyrometers and other special pieces of laboratory glassware. Charles Hillier made improvements to the Gerber butyrometer that resulted in a patent, first filed in 1964. Reg Cuttell didn't live to see these developments; he had died in 1957 aged 54. Arthur Rowlands retired from the company in 1969 upon reaching the age of 65.

In a very full career, Tom Ashton participated in many noteworthy developments. Direct ultra-high-temperature (UHT) sterilisation of milk by the injection of steam was not legal in the UK at the time. He pioneered the commercial development of an indirect method using heat exchangers. The 1950s and 60s saw the introduction to Britain of cottage cheese and yoghurt – the chocolate-topped version of yoghurt actually being developed by Ashton in his own kitchen. Packaging was another area in which he made significant contributions. On this topic, and production methods, he wrote extensively – some 50 papers in total.

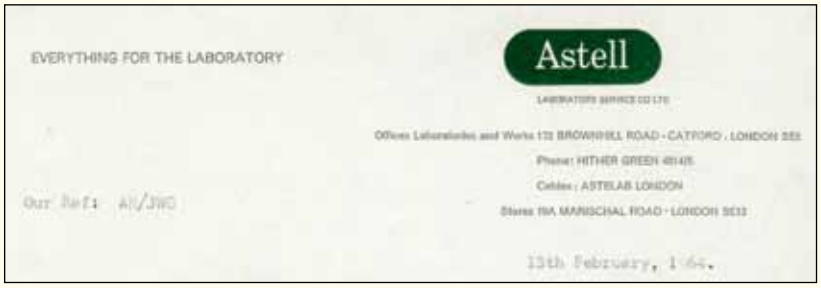
One of Ashton's duties at the Express Dairy Company was to oversee the processing of certain dairy products for the Royal Yacht Britannia. On the occasions when members of the Royal Family ventured abroad, milk was supplied from their own farms to be processed separately from commercial supplies.



Astell's Roll Tube Apparatus for bacteria counts

Tom Ashton continued his professional interests for many years after retirement as research director of the Express Dairy Company in 1976. His standing in the industry ensured that he was a welcome member on the many committees that represented dairy interests from the 1950s to the 1970s. He died in his 92nd year on 17 December 2002.

The Astell Scientific of today manufactures a wide range of autoclaves and sterilizers at its factory in Sidcup. Gone is the dependence on the dairy industry, which it served with great success for many years, both at home and abroad.



Sources

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'Obituary: Mr J.R.Cuttell', *International Journal of Dairy Technology*, vol. 10 iss 2 (1957) p.235.

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Companies House archive microfiche for Astell Laboratory Service Company Ltd, number 00486031.

Acknowledgements

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