

Remembering the Founding Generation of Today's Gas Detection Industry

Paul Gotley OBE, 25th July 1925 -18th July 2009 • Dr Tony Tantram, 12th January 1924 -17th July 2009

July 2009 will be remembered as a sad, yet memorable month for the gas detection industry in the UK. Two founders of this industry both passed away in the same weekend.

Paul Gotley founded Neotronics in the early '70s, the largest UK gas detector company. Tony Tantram founded City Technology in the mid '70s, the largest UK gas sensor company.

Both men had the foresight to invest knowledge, acumen and financial resources to develop the UK gas sensor market, and each has their own story to tell.

The UK leads the world in gas sensor technology, benefiting from several technology and market opportunities, but certainly these two men led the way for this UK dominance. So why does the UK have such dominance in the gas detection market?



Figure 3

Let us start with Paul Gotley

Paul was born in Vienna, Austria in 1925. Forced to leave his home by the Nazi regime at the age of 13, he made his way alone on a 'Kinder Transport' to England, never to see his parents or sister again. Any formal education stopped at that time, but he gradually worked himself through a night-school education by doing anything from tea delivery boy to lab assistant at the Clarendon Laboratory, Oxford.

Eventually, Paul became an Electrical and Mechanical Engineer, working in London for Londex & then Rank Cintel until 1959. He then moved to Harlow, working at Eremco until 1972. Paul was responsible for sales, quality and technical management at various times, achieving a Directorship in the early '60's. Eremco built remote controlled timers, with Paul being a named inventor on several patents, including one for thermostatically controlled soldering irons for a spin-off company. After discussions with the 'Post Office' in the early '70's, who then owned what is now British Telecoms, Paul recognised a niche market for electronic gas detection technology, which was moving towards the later nicknamed 'electronic canary'.

They needed something to monitor flammable gas for Telephone Exchanges where gas explosions were an increasing threat. Eremco had little interest in this new market, so Paul struck out on his own and founded Neotronics Ltd in 1973. With the first product being the AGM (Automatic Gas Monitor), Neotronics rapidly followed with the first instruments to monitor flammable gas, oxygen & spot check H₂S: this was the first 'multi gas monitor' Paul confronted the need for an oxygen gas sensor with the help of Dr Tony Tantram who was married to Rose Gotley's (Paul's wife) first cousin and who worked for the Wolfson Unit for Electrochemical Research at City University. Paul encouraged Tony to develop his amperometric oxygen gas sensor into a manu-facturable product, which ultimately led to the formation of City Technology Ltd in 1977.

The cooperation between Neotronics and City Technology in the '70s is an example of mutual support for a common goal: for example, Paul Gotley purchased the original metal forming tools for the City Technology C/2 oxygen sensors.

Neotronics continued to grow, starting from a Nissen hut which is now under the Stansted



Figure 1



Figure 2

Airport runway (figure 1). From this humble beginning, Neotronics expanded worldwide, eventually employing over 400 people by 1996 in their purpose designed factory (figure 2), winning two Queens Awards and leading to a full listing on the London Stock Exchange in 1987. Besides the innovative products in the '70's (figure 3), Neotronics was also a pioneer in combustion analysis with their Fuel Efficiency Monitor (F.E.M.) for which they achieved the Queen's award for Technology in 1982; Neotronics also developed the first metal cast housing gas detector, the MiniGas in the '90s. For these and other innovations, Paul was awarded an OBE for his contribution to the UK Manufacturing Industry in 1996. Paul was always keen to encourage young people & companies to develop their potential and actively helped them to do so. The significant number of ex-Neotronics employees now in senior management positions is a testament to this.

Neotronics made several acquisitions, taking it into associated markets: Air Instruments provided electronic air pressure measurement instruments; Laser Monitoring Systems with their mid-IR III-V emitter technology; Solomat, with their water and IAQ monitor portable instruments, and Neotronics Scientific grew from Neotronics Technology, pushing the boundaries of electronic nose technology in the early '90's.

Paul sold Neotronics Technology plc to Zellweger Analytics in 1996, using some of the capital to start Alphasense Ltd, a new gas sensor technology company which continues his legacy, pushing technological boundaries in gas detection, under the leadership of his daughter, Andrea Gotley.

Our second story is about Dr. Tony Tantram and a very successful academic spin-out company

Tony Tantram, along with three colleagues, founded City Technology Ltd in 1977 (figure 4). It was destined to become the largest gas sensor



Figure 4

company in Europe, even though at the time gas detection was mainly confined to laboratory equipment and the coal mines still used canaries!

Initially a small research group called the Wolfson Unit for Electrochemical Research, it was here that Tony invented a novel electrochemical oxygen sensor, which measured atmospheric oxygen concentration directly. Interest, especially in the safety and fuel-saving aspects of this work, resulted in the City University funding a commercial company. The company 'won' four Queen's Awards; two for innovative technology, and two for export sales and, as they say, the rest is history.

Tony was a clever and accomplished man, but his story starts earlier. He was born in Suva, the capital and largest city of Fiji on 12th January, 1924. The family lived in Fiji as Tony's father, an ex-army officer who served in the Great War, had been allotted land to farm there.

The family returned to England when Tony was three. A very bright boy, he went on to prep school in Devon and from there through sponsorship, won a place at Christ's Hospital in West Sussex, where again he did extremely well, acquiring a State Bursary to Oriel College, Oxford where he read Chemistry



Figure 5

Tony taught for a year at Sedbergh School in North Yorkshire, but teaching was not for him and so Tony went into research with the Gas Research Board. Moving to Dorking, he worked for Sondes Place Research Institute where his work largely involved research into viable fuel cells. Later a new company, Energy Conversion Ltd, was formed to carry this work further, with Tony appointed as Research Director. The company was later wound down.

At this time he was already a Visiting Professor at City University, London, and so the research in

electrochemistry could continue and City Technology was formed. The first product was the new C/S oxygen cell (Fig 5), followed by the popular C/2 smaller oxygen cell, used by many gas detector manufacturers in the '80s and '90s. By 1989 City Technology's success meant it had outgrown possible premises nearby in London, and so City Technology relocated to a new-build factory in Portsmouth. Tony, still a University employee, had retired but was retained as a consultant. City University honoured his efforts in 1988 by the award of an Honorary Doctorate (Doctor of Science).

Enjoying great success, Tony was one of those unusual individuals able to enjoy a good work/life balance. He met his wife, Ray, in 1951 when they were both working at the Gas Research Board at Beckenham and they married in 1953.

It was around seven years ago on a European touring holiday in France that Tony and Ray had a serious car crash which left Tony with a permanent paralysis from the mid-chest downwards. Tony's rehabilitation though was marvellous – due mainly to his own determination and the care he received at the National Spinal Injuries Centre at Stoke Mandeville Hospital.

He did indeed arrive home in a wheel chair, but in many ways Tony and Ray just rearranged their lives around his inability to walk. With a little help each morning and some weight training on Tony's part, he was still able to enjoy a good quality of life. Neither did he let bad weather deter him from venturing out in his wheel chair and as such, Tony and Ray still got to enjoy the countryside around them – for Tony there was no 'out of bounds'. He just worked around any obstacles that came his way. Sadly, more recent times saw Tony's health take a turn for the worse and complications from an operation to address an osteomyelitis infection eventually led to his demise.

A fundamentally good person, Tony was an inspiration to many around him. Blessed with intellect and drive, he made a great success of his life.

Both men had the courage and energy to take new technologies forward, establishing the UK as a world leader in gas detection. They will be missed but not forgotten and their legacies continue. (fig 6,7)

CoGDEM
The Council of Gas Detection and
Environmental Monitoring



Figure 6



Figure 7

AUTHOR DETAILS

Jonathan Gilby
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(extracts from Tony
Tantrams Tribute by kind
permission of the family)