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John Ward Jenkins

A TRIBUTE

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"The most exciting expression uttered by a scientist, the one that heralds new discoveries and inventions, is not 'Eureka!' …… but 'That's funny'." Isaac Asimov could have been thinking of John Jenkins when he made this comment. John was an instinctive lateral thinker, who could take a simple laboratory test and turn it into one of the most widely used techniques for characterising complex solid materials, or could see the potential for a new hydrogen-generating technology in a spontaneous catalytic reaction that was taking place in a small glass tube in a fume cupboard.

John was born on 23rd March 1932 in the U.S.A., but grew up in England's Lake District, which instilled in him his love of nature and the countryside. After studying Natural Sciences at Cambridge University, U.K., he returned to the U.S.A. to complete his education, with a Master's in Chemical Engineering at Princeton University. His scientific career fell into two almost equal halves. He worked for Shell in their Hydrocarbon Cracking group at their MTM Process R & D Laboratory in Texas for twenty years, before he and his family finally settled in the U.K. when he accepted a research post at the Johnson Matthey Technology Centre in 1976. After a similar length of time at the Technology Centre, he retired from science in 1995, and he and his wife moved to a farm in West Sussex.

While at Shell, John perfected the technique of monitoring the controlled reduction of catalytic materials (1), which many of us now recognise as temperature-programmed reduction (TPR). His role is often overlooked because TPR is one of those inventions that was never patented. However, as a non-proprietary technique, it could be quickly adopted in laboratories around the world, as news of it spread through the scientific literature (see, for example, Reference (2)). John was also particularly proud of the fact that its usefulness relies on the skill with which the results are interpreted and not on the cost of the equipment! John's personal TPR rig, which hardly even registered as a capital asset, followed

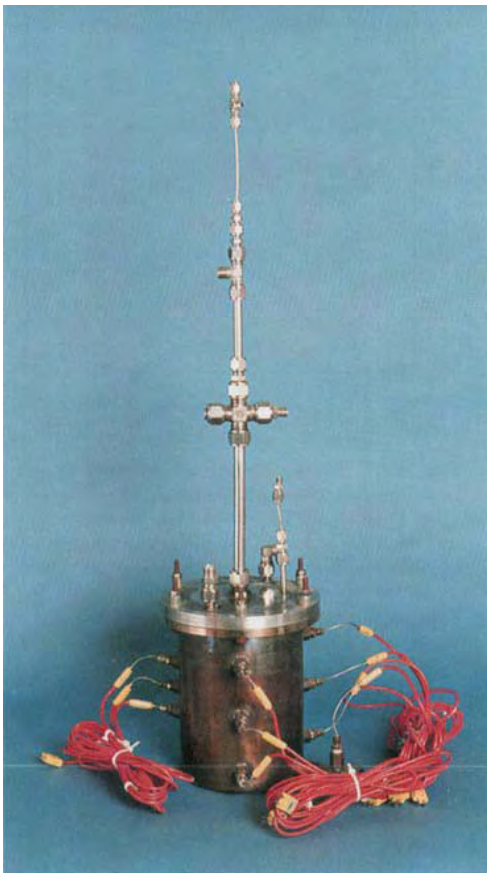

Fig. 1 A prototype of the HotSpot™ reactor for hydrogen generation (4)

him from lab to lab throughout his career, and could be stripped down and reassembled in the space of a couple of hours.

At Johnson Matthey, John worked on a series of innovative projects. These mostly addressed environmental challenges, such as the replacement of base metal paint pigments by non-toxic alternatives, but also included fundamental studies of platinum group metal (pgm) catalyst behaviour (3). Latterly, though, his name was invariably associated with the HotSpot™ reactor (Figure 1), which he had invented in the late 1980s (4–6). The reformer can be used to generate H_2 from hydrocarbon fuels and oxygenates in the presence of a pgm-containing catalyst, and may yet prove to be a key technology in a future hydrogen economy.

John Jenkins died on the 28th May 2008. He is fondly remembered as a caring and influential colleague and as an impressive scientist. Quite a few of us working in catalysis have benefited from his encouragement and wisdom, and many more of us have benefited – perhaps unknowingly – from the products of his inventive mind.

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