

## Obituary

## Nicholas Kurti (1908–98)

## Low-temperature physicist and ‘gastrophysicist’

One of the distinctions that pleased Nicholas Kurti most was appearing in the *Guinness Book of Records* as the creator of the then world-record low temperature, about a hundred-thousandth of a degree above absolute zero. That combination of scientific skill with a sense of fun epitomized the man. The work on low-temperature physics was conducted in the Clarendon Laboratory in Oxford, then headed by F. E. Simon with whom Kurti had a long connection. The lowest possible temperatures were reached in the early 1950s using the technique of adiabatic demagnetization to align the spins of atoms. To achieve this demanded enormous amounts of power, and Kurti’s characteristic drive and determination enabled him to obtain for his experiments the generator that had powered the city of Manchester’s tramway system.

The first 18 years of his life were spent in his native Budapest, under four totally different systems of government: a constitutional monarchy during the reigns of Franz Josef and Charles IV; a liberal republic in 1918 for five months, followed by a communist Soviet republic; and then for the next seven years a pseudo-democratic, near-fascist kingdom, ruled by a regent who was also an admiral.

It was anti-semitism that led him, along with many members of the Jewish middle-class, to seek his future outside Hungary. Unlike later emigrations this was not an escape from terror, but rather the talented leaving for better opportunities. In Kurti’s case he went to Paris to study physics and chemistry, spending two years at the Sorbonne, while living in a hotel in the Place du Panthéon, which left him with an abiding love of France.

The defining period of his scientific life was the postgraduate time he spent in Berlin when he was part of a brilliant period of twentieth-century physics. He attended the Wednesday colloquia in the department of physics at the University of Berlin organized by Max von Laue, when the front row was occupied by Einstein, Hertz, Nernst, Planck and Schrödinger (the ‘big guns’ in Kurti’s terminology), with the ‘small fry’ present including Ladenburg, Pringsheim, Simon, Szilard, London and Wigner.

He did his thesis work under F. E. (later Sir Francis) Simon in the department of physical chemistry in Berlin, completing

his thesis in two years. This was despite destroying his laboratory in an explosion when using a magnet cooled in liquid hydrogen. He was examined by Nernst and Schrödinger, in whose home the examination took place; this event was remembered by Kurti as a comfortable, shirt-sleeved, hour-long, interesting and instructive chat. Schrödinger gave him a “*sehr gut*” (very good) and Nernst a “*vorzüglich*” (excellent) resulting in a *magna cum laude* doctorate. Apparently the highest award of *summa cum laude* tended to be reserved for students who were poor or who were university teachers, because the university reimbursed the fees of those with *summa cum laude* and these two categories of students did not pay fees.

Kurti and Simon continued to work together from 1931 to 1933 at the Technische Hochschule in Breslau, where their Jewish origins became a problem with Hitler’s rise to power. Fortunately the intervention of Lindemann (later Lord Cherwell) brought both of them to Oxford where the influx of Jewish physicists had an enormous and positive effect on the Clarendon Laboratory. The two were an ideal combination, Kurti’s experimental skills complementing Simon’s deep understanding of thermodynamics. During the Second World War they again collaborated, on the atomic bomb project and in particular on isotope separation.

Kurti became a fellow of Brasenose College at Oxford in 1947, professor of physics in 1967, a fellow of the Royal Society in 1956 (vice-president in 1965) and was appointed Commander of the British Empire in 1973. He sat on numerous commissions and had a highly successful scientific career, retiring formally in 1975. But that only gave him wider opportunities to demonstrate his vigour and relentless pursuit of a range of activities. Among other campaigns he battled with British Rail to reorganize the parking at Oxford station, challenging them to prosecute him for breaking the barrier that trapped motorists in the evening until operated by a railway official.

He had a serious interest in scientific history and was instrumental in setting up the archive of scientists’ papers with the Royal Society and Royal Commission on Historical Manuscripts. He was also among those who pressed successfully

for the release of the recorded conversations of the German physicists interned at Farm Hall in Britain immediately after the end of the war, including their reactions to the Hiroshima bomb.

He was a highly talented musician with a love of opera, but chief among his pleasures was cooking, although very much influenced by his background as an experimental physicist. He liked to call his new topic ‘gastrophysics’ and presented a spectacularly popular lecture entitled “The physicist in the kitchen” at the Royal Institution and on television. One of his creations was an ice cream transparent to microwaves, enabling him to achieve an ‘inverted baked Alaska’, frozen on the outside but with hot jam in the centre.

Up until after his 90th birthday he cycled to his laboratory office early each day where among other things he wrote letters to newspapers, notably *The Times*, on a wide range of topics. Although he married quite late in life, he and his supportive wife Giana celebrated a golden wedding anniversary and together edited the Royal Society cookbook entitled *But the Crackling is Superb* (Adam Hilger, 1988). Nicholas Kurti, who died on 24 November, was not just a link with the heroic era of physics but a true original and creator of fun.

**W. Graham Richards**

W. Graham Richards is in the Department of Chemistry, University of Oxford, South Parks Road, Oxford OX1 3QT, UK.  
e-mail: graham.richards@chem.ox.ac.uk



GODFREY ARGENT