ELSEVIER

Thermochimica Acta 394 (2002) 1–3

thermochimica acta

www.elsevier.com/locate/tca

Biological Calorimetrist
Biography of Dr. Richard Kemp

Richard Kemp was born on 19 November 1941, in Enfield, Middlesex, England, the son of William, a factory worker; and Lily, a shop assistant. After primary school, he obtained a scholarship to the local Grammar School where, apart from his interest in cricket and running the school library, he was awarded a prize in biology for passing A-level exams with a nearly perfect score. He then went to Kings College, London, graduating in 1964 with a degree in zoology, after which he began graduate study that same year with Bryn Jones, at Aberystwyth, with research studies on the subject of the role of glycoproteins in vertebrate cell adhesion. During this period as a graduate student, he also studied cell electrophoresis for about 1 year with Geoff Seaman, in the Department of Radiotherapeutics of Addenbrooks University Hospital, in Cambridge. When Seaman left for Oregon, Richard left for Uppsala, where he joined Stellan Hjerten's group at the Biochemistry Institute. These were the early days of affinity chromatography, and the group was developing new techniques for protein separation, funded by Pharmacia. In October 1967, he became a research associate in Bryn's laboratory at Aberystwyth, funded by the UK Science Research Council. Here, he investigated the relationship between transmembrane cell adhesion molecules and cortical interactive elements, these latter becoming later known as microfilaments. These studies were to continue for the next 10 years. The work for his Ph.D. was completed in 1968. Since his return to Aberystwyth, Richard has remained there ever since, being appointed a Lecturer in 1971, a Senior Lecturer in 1983, and a Reader in 1986. He spent one sabbatical leave in 1972 studying transmembrane interactions with James Danielli at the Center for Theoretical Biology in Buffalo, another in 1976 studying calcium-dependent adhesion molecules with Tokindo Okada, Goro Eguchi, and Matsui Takeichi, in the Department of Biophysics in Kyoto, and a short sabbatical with Erich Gnaiger at Innsbruck, Austria, in 1991. This last had much to do with his becoming more and more interested in thermodynamics and in measuring biological enthalpy changes. When in Uppsala he made contact with LKB, who were manufacturing Ingemar Wadsö's calorimeters. After meeting Ingemar he bought two calorimeters in the early 1970s. Calorimetric studies gradually took over his research, apart from some work in the 1980–1990s on cell alternatives to animals in toxicity studies (still one of his major interests) and on cellular dielectric spectrometry related to the founding of Aber Instruments Ltd., which manufactures dielectric instruments. Recent studies have included that most difficult of all biological calorimetric experiments, the measurement of the heat of growth of animal cells in a defined medium.

Richard's affiliation with what was eventually to become the International Society for Biological Calorimetry (ISBC) began in 1972 when LKB organized the first of the series "International Symposium of Microcalorimetric Applications in Biology". This was a 1-day meeting hosted by Tony Beezer at Chelsea College, London. Richard became Secretary in 1978, and due to popular demand has remained so ever

0040-6031/02/$ – see front matter
PII: S0040-6031(02)00230-7

since. He organized the Aberystwyth conference in 1980. Prior to that, he and Tony, David Fletcher from Guys Hospital, London, and Phil Ross from NIH, had edited the in-house journal "*Microcalorimetry Newsletter*". These meetings continued on a more or less ad hoc basis. In 1986, in time for the conference organized by Erich Gnaiger at Schroken, Austria, in 1987, the active group became organized as the European Society for Biological Calorimetry, and the nature of the newsletter changed into the Proceedings of the Conferences held then and since.

Aber Instruments Ltd. was formed by the University of Wales at Aberystwyth as the result of work in the Institute of Biological Sciences largely by Douglas Kell and his graduate students more than 15 years earlier. Some of the developmental work leading up to this was done by Richard on animal cells, starting with one of his project students in the late 1980s and continuing to the present. This corporation recently won the Queen's Award for Industry.

Richard's research has been recognized internationally by two awards. In 1992 he was the second calorimetrist to be awarded the Lavoisier Medal of the ISBC, at its eighth meeting, in Gullmarstrand, Sweden (after Ingemar Wadsö, London, 1990). He also received the North American Society for Thermal Analysis award during the 1996 Congress of the International Confederation of Thermal Analysis, at the University of Pennsylvania. His name appears on some 100 scientific papers in refereed journals, in addition to reviews and many edited volumes. One of his most important recent contributions has been as the editor of Volume 4 of the Handbook of Thermal Analysis and Calorimetry, From Macromolecules to Man, Elsevier, Amsterdam, 1060 pp. 1999. This includes 17 chapters written by experts in their fields on all kinds of biological calorimetry and related subjects, and represents a definitive description of the field at the present time.

Richard has been for many years concerned about the problems of scientists in the former Soviet Union with respect to their ability to buy equipment and carry out research. Over the past 6 years, he has been instrumental in obtaining 250,000 € from the International Association for the Promotion of Co-operation with Scientists from the new independent states of the former Soviet Union. These funds have been immensely valuable to these scientists, some of whom earn 35 € per month, when it arrives. This co-operative effort has comprised 40 scientists, including graduate students, in Russia and Georgia, and involves microcalorimetric studies of metabolism in aquatic organisms, with special emphasis on the food chain from plankton to fish.

In addition to his duties as secretary to ISBC, he has refereed papers for, and participated in the editing of several volumes of the Proceedings of ISBC Conferences. He presently serves on the editorial board of ISBC, *Thermochimica Acta*, and *ATLA* (*Alternatives to Laboratory Animals*).

Of course, none of the above activities has taken place without participation in teaching, principally in the general subject of cell biology. His lectures at Aberystwyth include topics in cell structure, metabolism, and function; gametes, cells, and animal development; vertebrate biology; cell signaling and recognition; and gene expression and developmental genetics. He has also supervised 15 Ph.D. and 2 master's students, and routinely supervises up to 12 undergraduate project students per year, numbers attesting to his skill at teaching and his popularity among students.

It was decided that at the 12th ISBC Conference in Santiago de Compostela, the Proceedings of the Conference should be dedicated as a Festschrift to Richard Kemp in gratitude for and in recognition of all his activities around this and many former meetings. They could not have been as effective and remembered with pleasure without his steady help and engagement. Moreover, Richard is known as an excellent lecturer. His contributions to conferences are always highlights of intellectual ebullience, full of wit and humor, well illustrated, and at the front line of calorimetric development. His listeners and the readers of his papers are aware of his fondness for quotations, especially those in Latin or English, but in other languages as well. Two quotations have appeared recently, namely, "Fire burn and cauldron bubble."(Shakespeare), and "Gi' me a spark o Nature's fire/That's a′ the learning I desire" (Robert Burns). Our wish for Richard on this occasion is that he keeps his scientific cauldron bubbling for many more years, as he has done for such a long time in favor of the ISBC, and that he passes some more sparks of Nature's fire into "his" Society at future conferences so that they may proceed as effectively and proficiently as their predecessors.

And we also wish for him that he continues to experience the joy and enthusiasm he has always shown for his profession and for interactions with his colleagues. *Felix qui potuit rerum cognoscere causas* (Virgil).[1]

Edwin Battley
Stony Brook, New York, USA

Ingolf Lamprecht
Berlin, Germany

[1] "Happy (is he) who is able to know the reason for things."