Obituary Howard Flack (1943 – 2017)

Howard D Flack, 1943 - 2017

Howard has left us suddenly on Thursday, 2nd of February, 2017 at the age of 73 years. He was born in Surrey County in England. After having obtained his “honours degree” from the University of Nottingham he entered University College London where he was preparing his PhD project, Studies of Disorder in Anthrone and in Mixed Crystals of Anthrone-Anthraquinone, under the supervision of Kathleen Lonsdale. There can be no doubt that the direction of his life-long research interests were formed while working on this project. He realized that only a deep understanding of the diffraction process and its mathematical treatment brings him to the success of his work.

After gaining his PhD, Howard moved to Cambridge (England) to work as Research Assistant in Surface Physics in The Cavendish Laboratory. At this time, he met his future wife, Evelyne. By happy coincidence, Erwin Parthé offered Howard a position of Maître-assistant in the Laboratoire de Cristallographie at the University of Geneva, Switzerland. Howard’s arrival in Geneva coincided with a new start of crystallography in western Switzerland. Parthé’s interdisciplinary Crystallography Laboratory was a new central facility serving the Faculty of Science of the University. A year later, an Institute of Crystallography was newly created as part of Physics at the University of Lausanne, while the Universities of Neuchâtel and Basel gradually developed structure determination services. Howard generously collaborated with all these crystallography centres, and was involved in their success. He spent all his scientific life at the University of Geneva with short interruptions when he was invited to other institutions for teaching various mathematical methods of crystallography. He was employed in Geneva as part of the technical staff and as Chargé de cours. From 1984 to 1990, he was secretary of the Swiss Society for Crystallography, and initiated the creation of the SSCr. Newsletters.

Howard’s name is without any doubt connected with the Flack parameter. Since his thesis project, he had growing interest in the determination of absolute structure by X-ray diffraction. He realized that the problem could be posed by regarding the sample as a twin containing x and 1-x twin-fractions of the two enantiomers (with x a refinable parameter), in an analogous way to his treatment of disorder from 1970. This elegant solution of the problem of absolute structure determination proved to be enormously popular, with the twin-fraction x quickly being called The Flack Parameter.

His interest in mathematical crystallography was much broader than the chirality. He developed the way to treat merohedral twins, was involved in many projects dealing with statistical analysis of diffraction data, and suggested a method of absorption correction, implemented in his computer program CAMEL JOCKEY. He was a very good programmer, participating for many years in the development of the XRAY76 program system.

Howard saw, very early on, the contribution that modern computer-based communication systems could make to the dissemination of crystallography. His

contributions to the digital publication of IUCr material, to the structured archiving of data, and to the crystallographic community warrant their own description, and are detailed at http://www.iucr.org.

He particularly enjoyed being with students, and would take every opportunity to get them to talk about their own work. Many of Geneva students certainly remember his demonstration of 'la Coupe du Roi' - a method of dissecting an apple into two identical chiral halves. An experiment ending sometimes with teacher hurting himself when the knife was too sharp. Howard was giving the lecture Computational Methods in Crystallography and later on The Chirality of Crystals and Molecules in Geneva and at various other Swiss Universities. He certainly leaves a huge gap among the teachers of the Zurich Crystallography School.

My personal souvenir of Howard is his enthusiasm and never ending will of learning novel discoveries and finding the relations and laws governing the crystalline solids and beyond. He liked to share his knowledge. I believe not being the only one in Geneva who remembers that asking Howard a question was an adventure by itself. You left his office one hour later with the head full of novel and exciting information and had completely forgotten your original question.

With Howard, we have not only lost an influential scientist and teacher, we have also lost a widely interested and cultured person. He loved music, operas and concerts. He assembled an impressive collection of vintage toy trains and railway accessories produced by the British firm Hornby between 1920 and 1963. He liked down-hill skiing and horseback riding.

We will always remember his sense of humor, very “British”, his curiosity and willingness to share his knowledge.

Radovan Černý