

Memoirs and anecdotes

Howard Flack's contributions to electronic publishing

Howard had a brilliant mind of the first water, able to comprehend simultaneously the finest points of detail and the big picture. He was intrigued by the technical aspects of computer networking at the level of protocol and engineering, yet at the same time saw its importance not only in connecting together electronic devices, but as a medium for linking concepts, sharing news and information, communicating with colleagues, and ultimately for shaping the community.

In 1992 he began distributing crystallographic information and news on the EU-supported CONCISE platform, to which scientists could connect using telnet, email or the new 'gopher' protocol. Within a year, graphical browsers capable of effectively realising Tim Berners-Lee's vision of the worldwide web (WWW) had become available, and Howard transferred the accumulated content on the CONCISE server to a WWW server at his own University of Geneva. This first WWW service for a whole scientific discipline was named *Crystallography in Europe*. In collaboration with the IUCr editorial office in Chester, it also hosted Tables of Contents of new issues of the IUCr journals as they were published.

Based in Geneva, Howard interacted readily with the new initiatives of the Worldwide Web Consortium at CERN, and soon reorganised his server to form a node of the growing WWW Virtual Library, dedicated to crystallography, and then to become the home of a comprehensive news and information service called *Crystallography World Wide*. He began working with other crystallographers who saw the potential of the electronic medium, and was involved in the hosting of abstracts and information about the Aperiodic '94 conference (one of the first scientific meetings to be handled in this way), the establishment of mailing lists and discussion groups. By the time of the 1996 IUCr Congress in Seattle, Howard had assembled a comprehensive multi-author compendium of all the emerging technologies and web-based information services then available. Also by then, *Crystallography World Wide* had become a component part of the IUCr web server, as had *SinCris*, a complementary server managed by Yves Epelboin, cataloguing crystallographic software, suppliers and literature.

Following Ted Maslen's untimely death in 1997, Howard was appointed Chair of the IUCr's Committee on Electronic Publishing, Dissemination and Storage of Information. At once he addressed himself with his hallmark enthusiasm and clarity of purpose to the best strategy for publishing the Union's journals online. Alongside the technical expertise he had acquired during his own early web-server development, he immersed himself in the economic and policy implications of embracing the new technologies for scientific publishing. Of particular note are his input to the review process for the Open Archival Information System Reference Model (originally developed for the space sciences community) that informed the IUCr Journals archiving policy (<http://journals.iucr.org/services/archivingpolicy.html>), and his interactions with the similarly-named, though quite distinct, Open Archives Initiative that developed numerous tools for interoperability between electronic publications. Howard was also a strong supporter of the idea that the entire back archive of IUCr Journals should be digitised and published online, and the IUCr was among the first academic journal publishers to make its entire catalogue available on the web.

He also served during this period as IUCr Representative to two external bodies, the ICSU Committee on Data (CODATA, 1996-1997) and the International Council for Scientific and Technical Information (ICSTI, 1997-2002). He was thus able to follow developments in data management and publishing as they affected other scientific disciplines, and to establish close relations with both bodies that continue to the present day.

During Howard's time as Chair, the Electronic Publishing Committee was very prolific in many areas of electronic information management. The *World Directory of Crystallographers*, already an electronic resource since 1995, was re-engineered within a relational database management system and become another component of the IUCr web site. A worldwide network of mirrors of the IUCr web site was developed to accommodate areas of the globe that still had only limited bandwidth. The crystallographic *neXus* project of Lachlan Cranswick created CD-ROM distributions of all the major non-commercial crystallographic software packages for distribution in the developing world. Tools for authoring, validating and visualising CIF submissions to the journals continued to be developed, and Howard was enthusiastic about the possibility of searching the journals with chemical structure queries. Indeed, what was most remarkable through this period was Howard's boundless energy and enthusiasm. His method of running a Committee such as this was exemplary. Where doubts arose about the possibility of achieving a particular goal, instead of endless hypothetical discussions about the difficulties or obstacles that one might find, Howard simply tackled the problems head-on, setting up pilot schemes, testing their viability on the run, persuading others to try things out. He had immersed himself in the commercial aspects of scientific publishing, and understood well how the IUCr had to position itself in the economic marketplace. But what he brought most passionately to the exercise was the paramount requirement that academic publishing was there to serve science and the scientist.

In the mid 2000s, Howard stepped down as Chair of the Electronic Publishing Committee, keen to devote more time to that science which entranced him so much. He felt that the greatest challenges of the new information technologies had been mastered, and that he could leave their onward development to safe hands in the IUCr's publishing office. His friends and colleagues there hope that he was right, but recognise that if it is so, it is largely due to the enthusiasm, energy and wisdom that he brought to that period of his career. They thank him for that, and for the sheer excitement of those pioneering years.

References

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