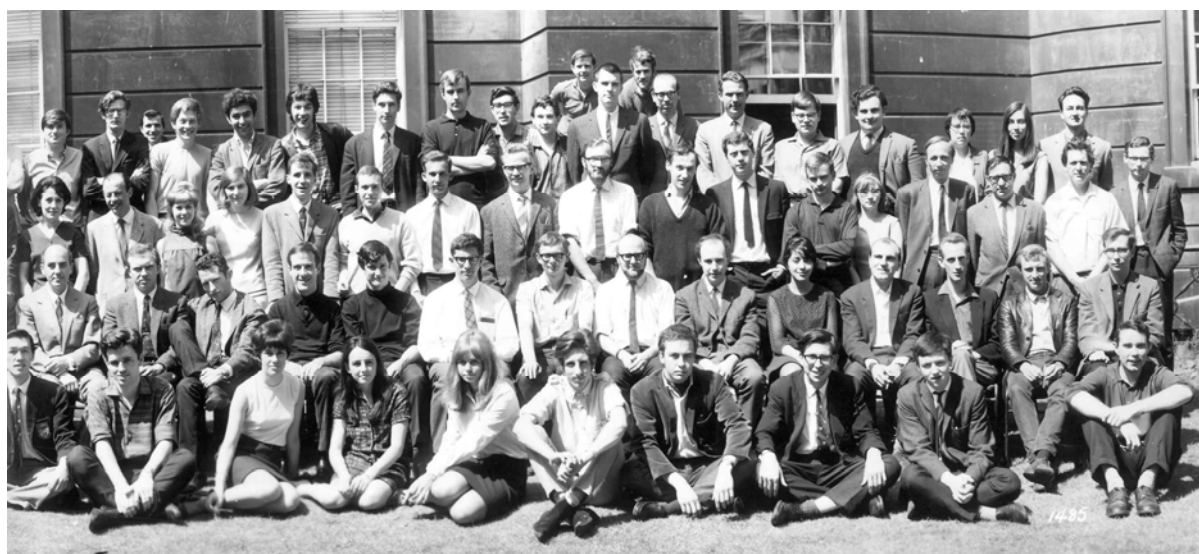


In October 1965 I started my PhD research in the laboratory of Kathleen Lonsdale at University College London as one of her last research students. Starting at the same time, and seated next to me was the then young Howard Flack, and we soon became good friends. Howard had studied Chemistry at Nottingham, if I recall correctly. He was assigned to work on diffuse scattering in crystals of anthrone and anthroquinone, whereas I studied mixed crystals of phenazine and phenazine-N-oxide mixed crystals, and it turned out that this showed diffuse scattering quite similar to that being studied by Howard. And so we worked closely together. It soon became apparent that Howard was much better in mathematics than I, whereas I was probably better at experiments. . So we complemented each other well. One of the first tasks given to us by Kathleen Lonsdale was to use Beevers-Lipson strips as an exercise to plot the Fourier projection of hexamethyl benzene. Howard was much quicker of the mark than I to understand how to do that.



The Chemistry Department at UCL in 1966. Howard can be seen 5th from the left in the middle row.

We were very lucky in Kathleen Lonsdale's research group as we had for our own personal use a real computer. I think we may have been the only scientific research group anywhere with its own computer. This was a Ferranti Pegasus Mark II machine with 8K of store on a magnetic drum, and 5-hole paper tape. Programming was in machine code which was something that Howard mastered very quickly: it took me a lot longer to understand, but I could never match Howard's ability in this. This actual computer is now on show in the Science Museum in London (<https://blog.sciencemuseum.org.uk/the-pegasus-computer/>) and still has a coffee stain on the chair that I left there one night. The photo shows Howard and me working on the computer in 1966.

In 1966 Howard and I went together with Kathleen Lonsdale to Moscow to attend the IUCr Congress where she was standing in as President in place of J.D. Bernal, who was too ill to travel. She was able to pay our expenses in Russia because she had some money there from a book she had written on Quakers in Russia. I recall that we arrived at the wrong airport and had to wait for our host, Professor Zhdanov, to come across Moscow to meet us. It was at the height of the cold war, but we found everyone to be very friendly. On the ride into Moscow the interpreter, whose name was Valery Demidov, taught me and Howard several Russian swear words, and from that time most communications between Howard and myself started or ended with greetings using one of those swear words! Howard had a rather special sense of humour.



In front of the Pegasus computer examining some 5-hole paper tape (ca 1966)



IUCr Congress Moscow 1966: In the main lecture hall of the Moscow State University. At the front, starting third along is Howard.

In 1968 Howard and I published together six papers in *Phil. Trans. Roy. Soc.* and left University College. Howard had in his papers developed an early mathematical formulation for X-ray diffuse scattering. He then went to the Cavendish Laboratory, Cambridge and I to the Chemistry Department at Harvard. In September 1969 I moved to the Cavendish Laboratory, and although we were working in different parts of the Department we soon met up and even shared for a brief while a house together with a few other miscreants. I recall that the gas meter was fed continuously with the same coin simply by putting it into the top and collecting it again through a hole at the bottom. To keep the house warm, as it had no central heating, we simply put the oven on permanently in the kitchen and left the doors open so that the heat could permeate through the building! It was during that time that Howard discovered his future wife, a Swiss au pair called Evelyn and soon she moved into the house with Howard. Subsequently, Howard moved to Geneva and married Evelyn, and we only saw each other on occasion. He seemed to develop a French accent on speaking English remarkably quickly: given Howard's unusual sense of humour I was never sure if he was putting it on deliberately. We kept in contact and continued to discuss topics such as optical activity, chirality and the history of Louis Pasteur.

His death earlier this year came as a shock. He was a clever scientist and a good colleague. I shall miss him.

Mike Glazer

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