Peter Zagalsky: an appreciation
(23 December 1938–28 December 2019)

Personal life
Peter Francis Zagalsky was born on 23 December 1938 in Cannes, France. Following the death of his Russian father Boris, in 1940, Peter escaped to England from occupied France with his mother Joan, flying from Cannes to Paris, on a private plane belonging to a friend, then on to Croydon Airport in the UK.

Education and career
After attending Haileybury School, he read biochemistry at Queen’s College, Cambridge, graduating with a BSc in 1961, followed by a Master’s in 1965. He joined Bedford College, London as a demonstrator in biochemistry. He was appointed assistant lecturer in 1962 and lecturer in 1965, in which year he completed a PhD degree under the supervision of Professor Dudley Cheesman. He was promoted to a senior lectureship in 1982. Following the merger between Bedford College and Royal Holloway, Peter continued his research and teaching at the campus in Egham, Surrey.

Teaching
Undergraduates recall that Peter was an incredibly dynamic and enthusiastic teacher, and he has been recalled “bouncing into the lecture introducing us to the structures of amino acids and the manner in which these are assembled into functional proteins”.

X-ray crystallography was at an early stage at that time, with the 3-dimensional structure of only one protein, the enzyme lysozyme, having been determined. Structural information regarding protein structure was thus inferred from biophysical and spectroscopic methods, including circular dichroism and optical rotatory dispersion.

Contributions to research
Peter’s work on the purification of proteins responsible for the colouration of the marine invertebrates Homarus gammarus (lobster) and Velea velella (the sea raft) commenced in the 1960s, with collaborators including Dudley Cheesman, Hubert Ceccaldi and Rhoda Quarmby, using spectroscopic, biophysical and chemical methods to obtain information on their structure. This area remained the major focus of his lifetime research.

Peter collaborated with a large number of scientists. The sequence of crustacyanin was determined in a collaboration with Professor John B.C. Findlay’s team (University of Leeds). The crystallization of this protein by Professor Naomi Chayen at Imperial College, London, enabled the determination of its structure by X-ray diffraction by Professor John Helliwell’s team (University of Manchester and the Daresbury Laboratory). The crystal structure provided an explanation for why a lobster changes colour when boiled. The carotenoid prosthetic group of the protein, astaxanthin, is orange-red, but assumes a blue-black colour when bound to crustacyanin. On boiling, denaturation of the holoprotein results in the release of astaxanthin, accounting for the colour change. This publication attracted interest not only by scientists but also by the media.

Peter was also part of a collaboration on the crystallization of β-crustacyanin on board the EURECA space vehicle – the first attempt by a UK group to achieve crystallization of a protein under conditions of microgravity.

Peter died on 28 December 2019 and is survived by his wife, Dikea, his children, Boris and Alexandra, and several grandchildren.

We thank Alexandra Zagalsky and professors John Findlay, John Helliwell and Naomi Chayen for their contributions to the preparation of this obituary. An extended appreciation of Peter’s life and work can be read in the online supplementary material 1.

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It was incorrectly reported in The Biochemist volume 42 issue 2 that Peter Zagalsky died at the start of 2020. The Biochemist apologises for this mistake.