Harbor Lights

Illuminating Life: Selected Papers from Cold Spring Harbor (1903-1969)
by J. Witkowski
$25.00

If you are anywhere on the spectrum from frequent Cold Spring Harbor visitor to someone who barely knows that Symposia of that name were until recently published in maroon covers, and if you want to learn more of the history of this remarkable research centre, then this book is for you. At first sight, Illuminating Life looks like a coffee table book, but it is much more than that. Jan Witkowski has assembled a history of the Cold Spring Harbor Laboratories from their inception in 1890 through to 1968, illustrated by a selection of research papers from 1903 to 1969. Each one or two papers is preceded by an interpretative essay and a biographical note on the principal author(s), and the whole is introduced by an informative historical preface. At the end are three obituaries from the literature summarizing the lives of three key players, Davenport, Harris and Demerec.

For a book of this size and compass, the essentials can be assimilated remarkably quickly, and at $25 the book is exceptional value for money. First read the preface. Then the essays. These are gems, and at two or three pages each there is no need to postpone them until later! Then dip into a few research papers. Then re-read the preface. Then you will know a lot about Cold Spring Harbor. If you read the obituaries you will know even more. Here are just a few impressions.

On p. 364 there is a photograph of one of the early buildings, the James Laboratory. The laboratory was constructed for $12,000 in 1928 for biophysics research (p117). It looks tiny, but in the early years of the Symposia, which were then on biophysical topics, it housed a galaxy of summer visitors including Curtis and Cole (electrophysiology), J. Z. Young (nerve conduction), Davison and Danielli (need one say more?) and many others.

If biophysics under Reginald Harris (1924-36) was what made Cold Spring Harbor Quantitative, then the quest for the genetic material and its properties is what has made it most widely famed. The book brings out the seminal contributions of Demerec, both as scientist and as director (1941-60) and of McClintock, Hershey, Cairns (director 1963-8) and others.

The chosen research papers include many that are landmarks in science, from maize to bacteria and phage, and generally they are easy to read. They are largely devoid of the ponderous throat-clearing and innumerable citations that are so much a part of scientific literature today. Many examples could be given of such ease of style and freedom from excess verbage, but one will suffice here. ‘Aggregation of DNA is often suspected but seldom studied. In phage lambda we found a DNA that can form characteristic and stable complexes. A first account of them is given here’. That is the entire introduction in Hershey, A. D., Burgi, E. and Ingraham, L. (1963), Cohesion of DNA molecules isolated from phage lambda. Proc. Nat. Acad. Sci. USA 49, 748-755.

The paper by de Lucia and Cairns (1969) on ‘Isolation of an E. coli strain with a mutation affecting DNA polymerase’ is a fitting choice with which to conclude the compilation. In the late 1960s something seemed not quite right about the Kornberg enzyme as the putative engine of replication. Several suspicious inconsistencies were accumulating. How to test these suspicions? Random mutagenesis, a precise and rapid screening assay applicable to thousands of isolates. The rest is history.

What of the last thirty years? The spine of the cover says, rather enigmatically, ‘Volume 1’; the reviewer could find no statement elsewhere in the book that more is to follow. Perhaps we can look forward to Volume 2. Surely that volume will contain, among many other landmark papers, one called ‘An amazing sequence arrangement at the 5¢ ends of Adenovirus 2 messenger RNA’.

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J. Cell Sci. Travelling Fellowships
Next deadline - 31 December
Unconventional collagens

Unconventional Collagens
Types VI, VII, VIII, IX, X, XIV, XVI and XIX
by S. Ricard-Blum, B. Dublet and M. van der Rest
ISBN 0-19-850545-0
£35.00

This thoroughly researched monograph in Oxford University Press’s ‘Protein Profile Series’ reviews substantially all the significant literature on this interesting and highly important group of proteins. The authors use the term ‘Unconventional Collagens’ for the collagens of higher vertebrate connective tissues which do not, of themselves, form classical fibrils with a 68 nm banding pattern. The authors chose to omit type IV collagen as this, they claim, would have almost doubled the size of the volume.

The monograph represents a very considerable achievement in three respects. Firstly it comprehensively reviews the literature on the sequence, structure, expression, post-translational modification, genetics, physiological function and pathology of each separate unconventional collagen. The thoroughness of this review is indicated by the fact that the bibliography contains no fewer than 1196 references. Secondly, the monograph identifies the modular domain structure for each collagen, clearly demonstrating that these proteins are block co-polymers mainly derived in evolution from a small number of ancestral genes. Thirdly, it starts to identify the way in which the different modules of these sticky molecules interact with each other and with other connective tissue components. This is an important start if we are to understand their vital role in the self-assembly processes which occur in embryology, tissue repair and the major degenerative and collagen gene diseases.

The clearly written and well set out text is supported by excellent micrographs of rotary shadowed molecules and molecular aggregates and a wealth of diagrams and tables.

The book has, in my view, three minor shortcomings: a short summary chapter on type IV would enable the non-specialist reader to relate this collagen to the other non-conventional collagens. Concise summaries at the ends of each chapter would orient newcomers to the field. More significantly, apart from the brief introduction, the book lacks an overall synthesis which pulls together the findings of the separate chapters. These slight limitations aside, this book is essential reading for those engaged in connective tissue research and will do much to stimulate further activity in this area. It will also be of considerable interest to tissue engineers, pathologists and embryologists.

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Commentaries

JCS Commentaries highlight and critically discuss recent exciting work that will interest those working in cell biology, molecular biology, genetics and related disciplines. These short reviews are commissioned from leading figures in the field and are subject to rigorous peer-review and in-house editorial appraisal. Each issue of the journal contains at least two Commentaries. JCS thus provides readers with more than fifty Commentaries over the year, which cover the complete spectrum of cell science.

Although we discourage submission of completed unsolicited Commentaries to the journal, ideas for future articles – in the form of a short proposal and some key references – are welcome and should be sent to the Staff Editor at the address below.

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