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From the pages of History

Preserving the past

Perhaps it is an effect of the approaching millennium marker, along with the fact that modern biology now has a ~50 year history. Or, it may be a product of the current age of instantly available information. Regardless, it seems that the scientific community is taking stock of itself and enjoying its rich history more often — and in more formats — than ever before. Numerous books, web sites and journals are commemorating the accomplishments of the past half century, during which scientific achievement, particularly in biology, has proceeded at unprecedented speed. It is human nature to look back, to be interested in the personal lives of those who made the discoveries, to wonder how things were done ‘back then’ and how discoveries were received. For those with the inclination, there are many places to begin exploring the history of science.

Of necessity, scholarly scientific publications, such as the peer reviewed papers published in our pages, lack personal accounts of the discoveries. But to a student of history, that is the most interesting aspect. To survive, such accounts will have to be perpetuated in other forms — such as books and essays. Several recently published books present history of interest to the community that *Nature Structural Biology* serves, including *DNA pioneers and their legacy* by Ulf Lagerkvist, *A history of molecular biology*, by Michael Morange, and *Dorothy Hodgkin: A life* by Georgina Ferry (the latter will be reviewed at length in an upcoming issue of *Nature Structural Biology*). These books follow the tradition of such works as *The Double Helix* by James Watson and the *Eighth day of creation* by Horace Judson; they focus on the scientists as well as the science. In addition, more journals are starting to acknowledge the history of the fields they represent. For example, *Acta Crystallographica A* recently published a special issue¹ to highlight the 50th anniversary of the first general assembly of the International Union of Crystallography (IUCr), held in 1948 at Harvard University. This issue contains 25 reports of historical interest to the crystallographic community, including ones explaining the history of the IUCr and focusing on the development of the fields of virus structures, synchrotron radiation and muscle research.

Even more information on the history of biological research can be obtained, however, without ever leaving a computer — assuming it has a connection to the internet. The tendency of scientists to ‘surf’ the web has probably facilitated the current interest in science history. Nearly every institutional web site (for examples, the Pasteur Institute <http://www.pasteur.fr/> and the European Molecular Biology Laboratory <http://www.embl-heidelberg.de/>) has a page of history to peak a reader’s interest, and it is difficult to go through a string of scientific links without coming across some historical archive or document. The web is a rich resource of historical archives and commentaries that can be found easily with any search engine. However, as with any information obtained from the web, some fact-checking may be in order. Highly reliable sites are those maintained by foundations, agencies, or universities, such as the Nobel foundation site (<http://www.nobel.se/>) and the recently launched National Library of Medicine’s ‘Profiles in Science’ site

(<http://www.profiles.nlm.nih.gov/>; see the History piece² on page 113 of this issue of *Nature Structural Biology*). Hopefully, through essays found on the web and in journals, as well as through books such as those mentioned above, some of the more obscure, but important, aspects of the history of molecular biology will be preserved.

Focus on molecular and structural biology

Nature Structural Biology has its own unique forum for presenting such 'received wisdom'. Last year, we began a new feature — the History section — and every month, a short report of historical interest, particularly to the molecular and structural biology community, has been presented. Our goal in initiating this section was to communicate some of the past to the younger structural biology community, focusing on the researchers involved as well as the results themselves. Several History pieces have highlighted particular areas of research, such as DNA binding proteins^{3,4} or ion channels^{5,6}. Others have been personal recollections of events and discoveries. Paul Sigler wrote of his support of Alwyn Jones' decision to abandon plans to do postdoctoral research in his lab — a decision that led to his writing of the program Frodo⁷. Tom Blundell described his days in Dorothy Hodgkin's laboratory at Oxford in the mid 1960s and his move to Sussex University in 1973⁸. Alex Rich (in the form of a three-part interview) talked of the discovery of the collagen structure^{9–11}. And Louise Johnson recalled the early history of the lysozyme structure in a piece that focused on David Phillips' presentation of the structure during a Friday evening lecture at the Royal Institution in London in 1965¹². Hopefully, many of the stories and anecdotes presented in these pages were entertaining and informative to the younger generation of molecular and structural biologists. If so, we have accomplished our initial goal and facilitated a form of oral (or written) tradition.

Call for more History

Because of its success, we have continued the History section this year. In the January issue, the History piece described a recent meeting held to celebrate the 50th anniversary of the Biomolecular Structure Laboratory at Birkbeck College, London¹³. At this meeting, which honored the founder of the laboratory, J.D. Bernal, Birkbeck alumni presented their research, along with some personal accounts. With the Birkbeck report, we have continued an unintended, albeit interesting, focus on X-ray crystallography. In future issues we would like expand the range to present History pieces about the early days of NMR spectroscopy, other diffraction methods, protein folding, computational modeling, molecular biology, and so forth. History reports will continue to take many forms, including 'first hand' accounts and opinions. We will still actively encourage submissions from the community — both solicited and unsolicited short manuscripts are welcomed for consideration. Such pieces may resemble the reports we have already published, or they may focus on classic papers or studies, particularly ones that changed the authors' ways of thinking about their work or persuaded them to investigate new areas of research. Insights from these pages of History — about a past discovery, the research climate at the time of the discovery, how well it was received and who was involved — should continue to make this a lively section of the journal and an interesting stop for anyone interested in the history of scientific endeavor.

1. 50 years of *Acta Crystallographica* and the IUCr: crystallography across the sciences. (ed. Schenk, H.) *Acta Crystallogr. A* **54**, 687–955 (1998).
2. History, *Nature Struct. Biol.* **6**, 113 (1999).
3. History, *Nature Struct. Biol.* **5**, 29 (1998).
4. History, *Nature Struct. Biol.* **5**, 100 (1998).
5. History, *Nature Struct. Biol.* **5**, 346 (1998).
6. History, *Nature Struct. Biol.* **5**, 421 (1998).
7. History, *Nature Struct. Biol.* **5**, 266 (1998).
8. History, *Nature Struct. Biol.* **5**, 533 (1998).
9. History, *Nature Struct. Biol.* **5**, 675 (1998).
10. History, *Nature Struct. Biol.* **5**, 760 (1998).
11. History, *Nature Struct. Biol.* **5**, 858–859 (1998).
12. History, *Nature Struct. Biol.* **5**, 942–944 (1998).
13. History, *Nature Struct. Biol.* **6**, 13–14 (1999).