

[Perspectives in Crystallography, John Helliwell](#), CRC Press, Boca Raton, FL, 2016, 171 pages, ISBN: 978-1-4987-3210-9.

Helliwell's *Perspectives* is a collection of articles and lectures by the author celebrating the 100<sup>th</sup> anniversary of the first crystal structures (1912) and the UNESCO International Year of Crystallography. The book covers a broad range of topics in crystallography from the author's perspective, hence the title. Some of the chapters have already been published in *Crystallography Reviews*.

Section 1 consists of a single chapter in which the author attempts to answer the question for the general public "What is crystal structure analysis?" Helliwell describes how the question was answered at several venues including his home institution, the University of Manchester, and the Prisoners' Education Trust.

I found the next section very interesting. Chapter 2 succinctly describes the first diffraction experiments by the Braggs before and during WWI while Chapter 3 provides retrospectives by W.H. Bragg, W. L. Bragg, P. P. Ewald and D. C. Phillips on the work described in Chapter 2.

Section III is titled "Aspects of Crystallography Research" and consists of 4 chapters. Chapter 4 is a transcript of the author's Lonsdale Lecture at the 2011 British Crystallographic Association. I found the short biography of Kathleen Lonsdale at the beginning enlightening. I knew of her importance with respect to the early crystal structures of organics and the creation of the original International Tables for Crystallography, but I did not know the details of her life's story. The lecture then describes the history of the use of synchrotron radiation by the crystallographic community.

The next two chapters cover more specific topics: a comparison of several programs for predicting protonation versus X-ray diffraction results and the structural of crustacyanin. The last chapter in this section is a short prospective on the future of crystallography.

The last section and chapter looks at how crystallography has been a part, and will continue be a part, of the eight Millennium Development Goals set forth by the UN in 2000. One of the goals is to promote gender equality and empower women. The author points out that, compared to other sciences, crystallography has more balance. Many of the goals are related to the alleviation of human pain and suffering—clearly crystallography excels through a better understanding of the world around us.

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