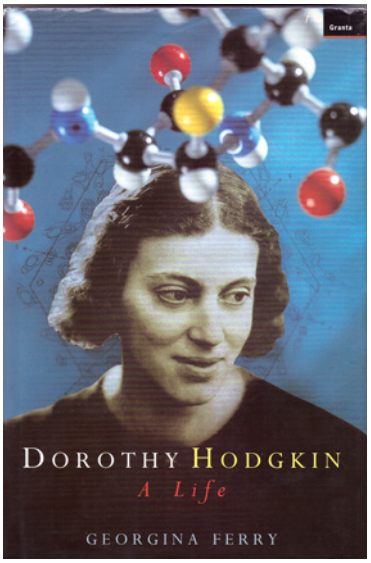
OF POLITICS, SCIENCE AND LEARNED SOCIETIES

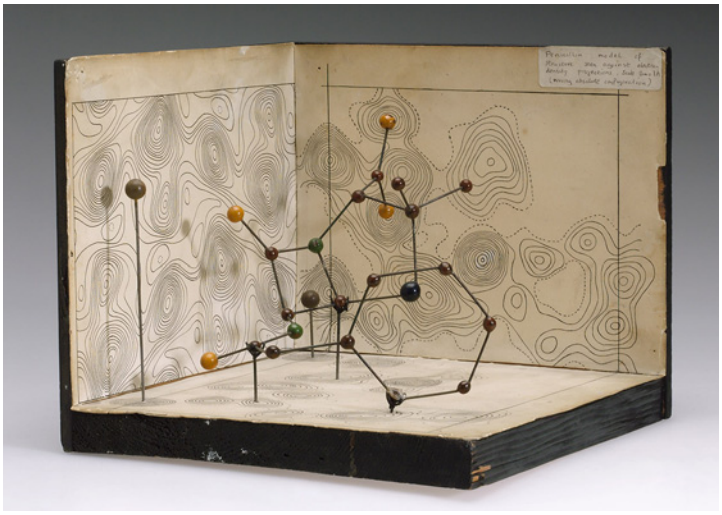
Kevin Murphy

Dorothy Hodgkin (1910–1994) was a crystallographer whose work on the crystal structures of insulin, vitamin B_{12} and penicillin won her the Nobel Prize in Chemistry in 1964. 2014 being the International Year of Crystallography, I decided recently to re-read the excellent biography, *Dorothy Hodgkin A Life*, by Georgina Ferry, and I firmly recommend it.*



The book charts her progress from a schoolgirl, often left to care for her younger siblings while her academic parents took long research trips abroad, to loving grandmother, referred to as "Dossie". In between she became the third woman to be awarded a Nobel Prize, received countless other accolades – including being president of the International Union of Crystallography – ran a large and somewhat idiosyncratic research group in Oxford, and travelled extensively to speak about her work. The book gives an excellent insight into her life as a scientist but also gives a sprinkling of the background politics which existed in academia at the time. Also discussed extensively, particularly in relation to the middle decades of the century, were the leanings of many (including Hodgkin's husband) towards communism, and later towards anti-war movements and nuclear disarmament. She became president of the Pugwash movement, an international organization founded in 1957 that "brings together scholars and public figures to work towards reducing the danger of armed conflict and to seek solutions to global security threats" (source: Wikipedia, June 2014).

It appears that the situation with regard to funding was as difficult during Hodgkin's time as it is now. Ferry asserts that during Hodgkin's time in Oxford, she had to overcome the usual hurdles of proving her work was worthy of research support (she was an early adopter of 'big' facilities, using computers in her crystal-structure work). She also had to overcome many hurdles associated with her gender, including attendance at some in-college seminars, male-only domains, even when it was her work that was being presented!



Molecular model of penicillin, by D. Hodgkin. Image from the Wikimedia Commons, reproduced under the Creative Commons Attribution-Share Alike 2.0 Generic license

The aspect of the book which struck me most was Prof. Hodgkin's preferred modus operandi in all aspects of her life, including research, politics, etc. At all levels she sought to focus on people, including her many students and colleagues. After the award of her Nobel Prize, she travelled extensively and in particular took the opportunity to visit China on several occasions. Exchange of scientific views with Chinese scientists was very difficult at the time because Chinese scientists published in Chinese journals not available elsewhere and did not have much access to the international literature. During her visits she undertook all the appointments scheduled by those responsible for her travel, but ensured that she also had time to visit and come to know the crystallographers personally. She maintained links and friendships with many Chinese scientists and was delighted when China joined various international organizations, including the International Union of Crystallography. As soon as movement restrictions were relaxed, Chinese scientists came to work with her group in Oxford. She also forged relationships with scientists in Russia, Vietnam, the US (particularly with Linus Pauling, himself a Nobel laureate), Japan and Poland, all of whom felt strong personal ties with Prof. Hodgkin. Though some might have accused her of political naivety, former colleague Prof. Derek Blundell of Cambridge University suggested that it was the "emotional positioning, a human interaction" that won Hodgkin her success at so many levels.

I can't help feeling that a more Hodgkin-like approach would sometimes serve us better.

Earlier this year the Mineralogical Society received an application for a student bursary (travel grant) from an Iranian student. His application, like many we receive, was from a young scientist keen to tell other scientists about his work in a professional scientific forum, to learn further about his craft from more senior scientists and to receive feedback about his work. The Society granted him some money which would help him to travel from Tehran to Bulgaria for the SGEM 2014 (www.sgem.org) conference. Following the award, he discovered that scientists from Iran were not welcome at the event. Society staff undertook to contact the conference organizers but several attempts went unanswered. Fortunately we were able to secure his attendance at another relevant conference (Mid-European Clay Conference) taking place in Dresden in September, but not until another hurdle was overcome: our Society's bank would not transfer the funds to any bank in Iran.

Though I understand (of course) the reason for economic sanctions and other such restrictions, I can't help feeling that a more Hodgkin-like approach would sometimes serve us better. Many things have changed which have helped our Chinese colleagues (for example) to come to the fore in science, but it is certain that the links built by Hodgkin and others contributed significantly. There is much that scientists and our learned societies can do to help in this regard. ■

Kevin Murphy, Executive Director
Mineralogical Society of Great Britain and Ireland

* Ferry G (1998) Dorothy Hodgkin A Life. Granta Press, London ISBN 978-1862072855, 423 pp

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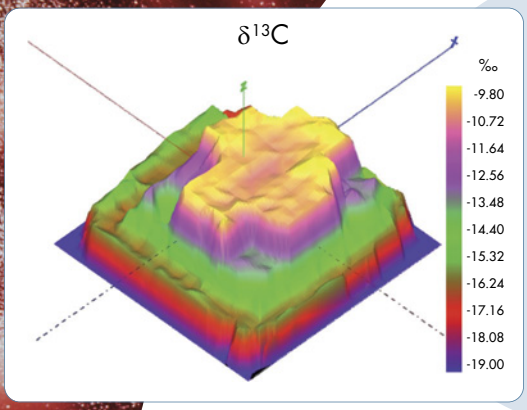

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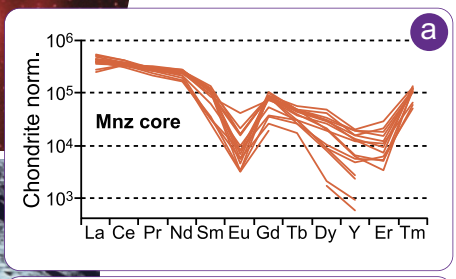

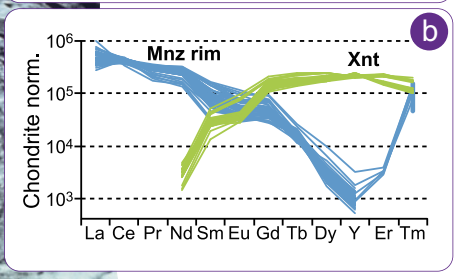

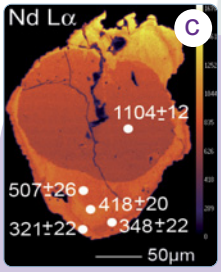

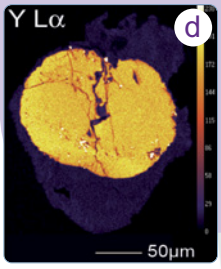

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Data acquired on the SX Ultrachron model, courtesy of Dr. Julien Allaz, Univ. of Colorado and Dr. Michael Jercinovic, Univ. of Massachusetts.

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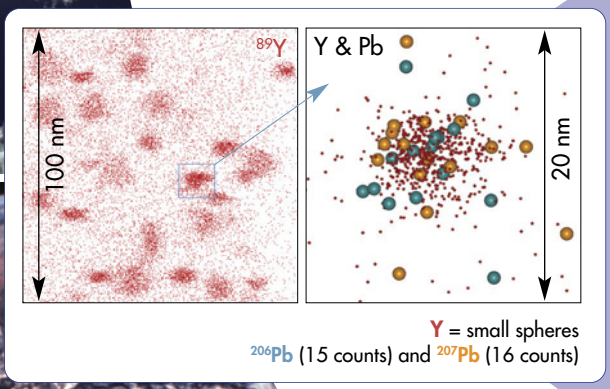

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Courtesy of Valley, J. et al. Hadean age for a post-magma-ocean zircon confirmed by atom probe tomography. Nature Geoscience (2014).

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