The Periodic Table: its Story and Significance

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- Chemistry
- Physical chemistry
- History of science

Details

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Professor Eric Scerri is a leading philosopher of science who specialises in the history and philosophy of the periodic table. The periodic table is one of the most significant achievements in science, capturing the essence not only of chemistry but also of physics and biology. It is a unique tool, enabling scientists to predict the appearance and properties of matter on Earth and in the rest of the Universe. Scerri's book, *The Periodic Table: its Story and Significance*, is a fascinating and rich account of the history, development and current significance of the periodic table, not only containing a wealth of information on the periodic table but also invoking the principles of modern physics to explain the periodic system.

The Periodic Table begins with an overview of the importance of the periodic table and the elements. It gives a systematic account of the early developments that led to the classification of the elements. Two chapters are dedicated to Mendeleev's predictions and how already-known elements fitted in his table. Chapters 6 and 7 deal with the impact of physics, such as radioactivity, isotopes and Bohr's quantum model of the atom, on the periodic table, and Chapter 8 focuses on new physical theories by chemists to correct some of the early electronic configurations. Chapter 9 analyses the impact of modern quantum mechanics and how it might help to explain the periodic system from first principles. Chapter 10 deals with how the elements evolved following the Big Bang and in the interior of stars.

This book is a tour de force and a must-have for any true scholar with a passion for chemistry. Scerri's book presents an uninhibited 'warts and all' history of the periodic table. Most college or secondary-school textbooks give only a brief 'heroes only' account of the history of the periodic table, but Professor Scerri manages to give a well balanced story. This book would be helpful for any secondary-school science teachers specialising in chemistry who want to understand the far-reaching implications of the nature of the periodic law and the challenges that modern science still faces in fully explaining the classification of the elements. This book is a nice step out of the trees to see the wood for a while. I strongly recommend *The Periodic Table: its story and significance* to all secondary-school chemistry teachers.