Lauren Redniss's cyanotype drawings of the Curies symbolize radium's faint blue glow.

HISTORY

Radioactive romance

Giovanni Frazzetto is captivated by an illustrated biography of Marie and Pierre Curie.

Writer and artist Lauren Redniss's *Radioactive* is no ordinary biography of Marie and Pierre Curie. The story of radioactivity, one of the most exciting discoveries of the past 100 or so years, is brightly visualized through Redniss's imagination in her illustrated book. Ideas, scientific choices, motivations and insatiable passions unfurl in her elegant cyanotype drawings and are enacted by ethereal figures set into motion by the author's eloquence.

The tale begins with a taste of Pierre and Marie's lives before their magnetic meeting, charting Marie's arrival in Paris from Poland in 1891 and her integration into the French academic structure. It proceeds with their early studies on radiation, their joint Nobel Prize in Physics (with Henri Becquerel) in 1903, and Pierre's death in a street accident in

1906. The pages tell of Marie's affair with her late husband's brilliant former student, Paul Langevin, and of the ensuing scandal, which broke out at the time Marie was awarded her second Nobel prize in 1911 for the isolation of polonium and radium (the 100th anniversary of which we celebrate this year).

Redniss unfolds plot and content with skill and kindness. She introduces suspense and selects affectionate, unforgettable details. The concepts of radioactivity, half-life and nuclear fission are delivered with poetic ease, and used as metaphors to parallel steps in the protagonists' lives. The result is a

2011: YEAR OF CHEMISTRY
Celebrating the central science
nature.com/chemistry2011

Radioactive: Marie and Pierre Curie, A Tale of Love and Fallout

LAUREN REDNISS
It Books: 2010.
208 pp. \$29.99

Radioactive

Artwork from the book is on display at the New York Public Library, 14 January–17 April 2011.

linguistically rich and visually captivating portrait of two formidable scientific figures and their extraordinary discoveries.

Radium is one of nature's most bewitching elements. The radiation that stems from it evoked wonder in the discoverers themselves, who gave lyrical descriptions of the spontaneous and luminous energy of the substances they had isolated: "These gleamings, which seemed suspended in the darkness, stirred us with ever new emotion and enchantment ... the glowing

tubes looked like faint, fairy lights."

The thread of discovery is intertwined with contemporary applications throughout the book. We learn how Pierre's early studies of piezoelectricity are applied today in measuring caffeine levels in beverages, in treating hypothermia and in propelling droplets in inkjet printers. The implications of the Curies' science also had a dark side. We are reminded of the discoveries leading up to the atomic bomb, of the Chernobyl disaster and how former KGB officer Alexander Litvinenko was apparently killed by polonium poisoning in London in 2006.

Cyanotype, the printing process used by Redniss for many of the images in the book, is a deliberate choice. A negative transparency of each illustration is placed on paper coated with chemicals that, on exposure to sunlight, reduce to become the dye Prussian blue. The dark areas in the negative remain clear. For Redniss, the derivation of the final drawing from its negative symbolizes radium's faint turquoise glow. The technique also captures Marie's simultaneous fragility and strength: cyanotype prints fade when exposed to light, but can be rejuvenated by storing them in the dark. And Prussian blue capsules are an approved treatment for radioactive contamination in humans.

Radioactive is romance, history, art and poetry woven together into a unique style of biography. Redniss introduces us to the intense and sometimes frail lives of brilliant devoted scientists, displaying her enchantment with the lyrical aspects of science. ■

Giovanni Frazzetto is at the BIOS Centre of the London School of Economics, UK, and a fellow at the ICI Berlin Institute for Cultural Inquiry, Germany.
e-mail: g.frazzetto@lse.ac.uk