

The Coming Convergence: Surprising Ways Diverse Technologies Interact to Shape our World and Change the Future by Stanley Schmidt, Prometheus Books, Amherst NY, USA, 2008, pp. 270. Scope: survey. Level: general reader.

Where are we going, and what is the future awaiting mankind in a few decades or centuries from now? How can we hope to influence the directions in which science and society will evolve? In seeking answers to these questions, Stanley Schmidt considers how we got to where we are and the nature of technological innovation.

Schmidt's book is built around the idea that major innovations usually arise as the result of a convergence between two or more seemingly separate lines of development. Examples that he cites include CAT scanners (which required a coalescence of work in X-ray technology, computing, and medicine), aviation (fluid dynamics, engine technology, materials), digital photography (optics, electronics, computing) and many others. In discussing where we may be going, he looks for emerging research lines that appear to have the potential for nearly universal applicability. He pays particular attention to nanotechnology which, according to its most enthusiastic advocates, is indeed likely to change our world with applications in areas as diverse as medicine, materials and space exploration.

The style is friendly and chatty, and the level of the presentation is suited to the general reader with little or no science education beyond school and whatever he or she may have picked up from newspaper articles and television programmes. A physicist by background, Schmidt provides simple explanations of numerous processes, phenomena and scientific/technological topics, including computing, skyscraper design, aerodynamics, genetics, biotechnology, information technology, nanotechnology and cognition. He also skirts around the problems of consciousness, awareness and individual identity. He includes much history of science, e.g. describing what modern computing owes to a piece of eighteenth century textile machinery, the Jacquard loom. Schmidt is also a writer and editor of science fiction so, unsurprisingly, his book is full of interesting and challenging ideas, some of which will be new for almost every reader. He emphasises the potential for both good and ill that arises from almost every scientific innovation, and he discusses the pivotal policy choices to be made, e.g. in terms of privacy and other individual rights, necessitated by recent and foreseeable advances in information technology and surveillance.

Peter V. E. McClintock
Lancaster University.