books and arts

are conceived, and how they win or lose acceptance. He rightly points out that science rarely proceeds in an objective, linear fashion. Correct theories are often favoured for the wrong reasons; observations and experiments are frequently misinterpreted; and sometimes force of personality holds sway over analytic reason. Because cosmology has such ambitious goals — to find a coherent explanation for the entire system of things and how it has evolved — these peculiarities are often exaggerated. In particular, cosmology has more than its fair share of eccentric characters, providing ample illustration of the role of personal creativity in scientific progress.

This very well written book conveys the ideas underpinning cosmological theory with great clarity, taking nothing for granted of his readership, Singh delves into the background of every key scientific idea he discusses. This involves going into the history of astronomical observation, as well as explaining in non-technical language the principles of basic nuclear physics and relativity. The numerous snippets of biographical information are illuminating as well as amusing, and the narrative is driven along by the author’s own engaging personality.

As a fan of Singh’s previous books, I have to admit that, although this one has many strengths, I found it very disappointing. For one thing there isn’t anything in this book that could be described as new. The book follows a roughly historical thread from pre-classical mythology to the middle of the twentieth century. This is a well-worn path for popular cosmology, and the whole thing is rather formulaic. Each chapter I read gave me the impression that I had read most of it somewhere before. It certainly lacks the ground-breaking character of Fermat’s Last Theorem.

The past ten years in cosmology have witnessed a revolution in observation that has, among many other things, convinced us of the existence of dark energy in the Universe. Theory has also changed radically over this period, largely through the introduction of ideas from high-energy physics, such as superstring theory. Indeed, some contemporary Big Bang models bear a remarkable resemblance to the steady-state universe, involving the continuous creation not of mere atoms but of entire universes.

Frustratingly, virtually all the exciting recent developments are missing from this book, which leaves off just when things started to get interesting, with the COBE satellite in 1992. Readers who want to know what is going on now in this field should definitely look elsewhere. The processes of cosmic discovery and controversy are ongoing, not just relics of the past.

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