Nothing ventured

THE VOID BY FRANK CLOSE

Oxford University Press: 2007. 166 pp. £9.99

From time to time trends emerge in popular physics books — short books, illustrated books, personal books, books criticizing string theory, books with the word 'universe' in the title, and so on. However, the overwhelming trend in recent years has been for popular physics books to become longer and longer, bolstering their bulk with copious notes, exhaustive references, a detailed index and, for many US authors, an acknowledgement to the super-agent John Brockman.

However, a common feature of almost all popular physics books, long or short, is that they have to rehash the basics (atoms, quantum mechanics, relativity, for example) and the not-so-basics (such as the cosmic microwave background or the Standard Model of particle physics) before they reach their own *raison d'être*. Indeed, in many ways these topics constitute a standard model of popular physics writing, and the challenge for all authors is to go beyond this model and tell the reader something new and interesting.

The best books achieve this by focusing on a specific scientific problem and telling a story — reliving the twists and turns, the personalities, the controversies, the blind alleys and the breakthroughs on the way to where we are now, which is rarely the end of the story. *The Extravagant Universe* by Robert Kirshner, who led one of the teams that discovered dark energy, is a good recent example. Professional writers and journalists cannot, as a rule, bring the same level of authority and insight to their books, but they can compensate with other tools and skills, such as extensive background research and interviews: *Strange Beauty*, George Johnson's superb biography of Murray Gell-Mann, is the best example of this approach.

The Void by Frank Close — eminent particle theorist, award-winning science writer and former head of communication and public education activities at CERN — takes the vacuum as its theme on a whirlwind tour of the frontiers of modern physics and cosmology. Moreover, counter to the recent trends, Close seeks to cover all this ground — plus the Lamb shift, the Casimir force and a few other nooks and crannies that rarely feature in popular physics books — in a mere 166 pages. Although the breadth of topics covered is impressive, the book gives the impression of being written and published in a hurry.

Non-physicists will certainly struggle with some of the explanations in the book, whereas physicists might wonder why CERN is the only particle physics lab to be mentioned, or why Philip Anderson is (rightly) mentioned in connection with the Higgs mechanism, but lots of other theorists who made important contributions — notably Robert Brout and François Englert, who shared the 2004 Wolf prize with Peter Higgs — are not. (My own theory is that Close has noticed that Anderson, who reviews a lot of physics books, routinely criticizes authors who overlook the role played by condensed-matter physicists in the history of the Higgs mechanism.) And physicists and non-physicists alike will wonder why the author bothers to discuss Stephen Hawking and James Hartle's notoriously difficult-to-understand 'imaginary time' in such a desultory manner in the last chapter.

However, the main problem with *The Void* is that it offers little or nothing that has not been offered in more detail and with greater clarity in many other books. This is a pity because Close has an excellent track record of bringing physics to the public, and because it is easy to imagine the vacuum being used as a theme to go beyond the standard model of popular physics writing in new and interesting ways, but only if the material is given more time and more space.

Peter Rodgers
Peter Rodgers is the chief editor of Nature Nanotechnology

On our bookshelf

Guide to Weather Forecasting by Storm Dunlop

Philip's: 2008. 176 pp. £9.99.

Think you can do better than the weatherman? This practical guide includes weather charts, satellite images and maps, as well as explanations on how to interpret them.

The Mystery of the Missing Antimatter by Helen R. Quinn and Yossi Nir

Princeton Univ. Press: 2008. 292 pp. $29.95.

Immediately after the Big Bang, there were equal amounts of matter and antimatter. But a millionth of a second later, a teeny surplus of matter — about one part per 10 billion — led to our Universe today, with antimatter mostly confined to particle accelerators. Why?