

ies. The next eight chapters celebrate achievements in particular geographical areas, as already mentioned. Thurston goes into considerable scholarly detail, giving the vernacular words and notations in each of the diverse languages involved. Another good feature is the wealth of illustrations: there are 139 in all, mostly diagrams (for example of Stonehenge and of epicycles) and photographs of early sites and instruments. The main text ends with a long chapter on the European Renaissance, with emphasis on Copernicus and Kepler. There are six appendices covering points of detail, and an index. The author succeeds in his aim of tracing the growth of early astronomy in a clear and scholarly way, with technical detail.

Thurston says little about the scholastic mediaeval period from about 1200 to about 1500, when scientific advances in astronomy were few. Edward Grant's book fills this gap in no uncertain manner — presumably by chance, because nobody could imagine one publisher cooperating with another.

Planets, Stars and Orbs is a massive if somewhat mistitled book about the mediaeval cosmos from 1200 to 1687. The author, a professor at Indiana University, spent 15 years on the book, which runs to 816 large and closely printed pages. He has produced a detailed and authoritative study that is unlikely to be surpassed for many years to come. He begins by discussing Pierre Duhem's ten volumes on *Le Système du Monde*, which runs from Plato to Copernicus but is in Grant's opinion too rambling and disorganized to be as useful as it ought to be: hence his book, which is well organized. Many scientists regard scholastic Aristotelianism as the most sterile form of dry-as-dust learning — regurgitations of Aristotle untouched by real life or experiment. Grant, however, believes that "those who are comfortable with the fantastic ideas that make up the fabric of modern cosmology should suffer little or no distress confronting the claims of mediaeval cosmology". The difference is that the mediaeval scholars had to accommodate the perceived operations of God rather than the equations of relativity.

To imply that Grant's book is easy reading would be absurd: but he does his best to keep it lively by the Socratic device of continually asking questions. The title of Chapter 4 is "Is the world eternal, without beginning or end?". "Was creation from nothing?" and "Is the world perfect?" are others. After the main text there are 400 questions often asked by scholastic authors, with lists of sources where answers are attempted. For example, 18 authors, from Michael Scot to Illuminatus Oddus, consider whether there are, or could be, more worlds. The 400 questions elicit 1,176 responses: Roger Bacon has 37, William of

Occam 7 and John Major 40.

Professor Grant ploughs through this morass of mediaeval opinion and argument with unflinching zest and admirable rationality. His long history of time long past should be of lasting value to everyone interested in either scholasticism or cosmology. The three books together offer a complete education in history of astronomy up to the seventeenth century. □

Desmond King-Hele, formerly deputy chief scientific officer at the Royal Aircraft Establishment, is editor of Notes and Records of the Royal Society.

Shattered dreams

Abraham Verghese

How We Die. By Sherwin B. Nuland. Knopf/Chatto and Windus: 1994. Pp. 278. \$24, £15.99 (hbk); £8.99 (pbk).

IN the past year, two books, both by physicians, have soared to the bestseller lists in several countries. Both reached this pinnacle by virtue of lucid prose, aided in large measure by an unprecedented peak in public fascination with issues of self. In *Listening to Prozac*, Peter Kramer deals brilliantly with the complex issue of personality and questions whether a commonly used antidepressant can alter the very essence of a person's character as well as lift depression. In *How We Die*, Sherwin Nuland deals with death, our own death in this modern era, and what we can expect as the final curtain falls. Nuland's book is, like its title, straightforward and is a quick read, although it is not quite as intellectually engaging as Kramer's book.

Nuland tells one everything one would like to know about death — or, at least, as much as any living person could possibly tell one. Unlike *Embraced by the Light* by Betty J. Eadie, another popular book about death (or near death), Nuland for the most part avoids the mystical and writes from a basis in fact rather than speculation. His view of death is coloured by his own personal experiences, which he shares generously with us: the author as a boy of 11 losing his mother; witnessing his Aunt Rose's decline in health and eventual death; as a young medical student left to care for a patient dying from a cardiac arrest; as surgeon and writer coping with many more deaths in the course of a long career; and finally observing his brother's death from cancer and thereby coming to terms with his own mortality.

Nuland's strategy is to examine in individual chapters several common causes of death that plague modern society: heart disease, ageing and Alzheimer's disease, murder, suicide, euthanasia, AIDS and cancer. Each section has a prefatory sec-

tion covering anatomy and pathophysiology that medical and scientific readers may choose to skim through but other readers may find helpful. Nuland is always informative, making many references to historical figures and to works of literature, although at times he tends to adopt the tone of the lecturer at the podium and

Mary Evans

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Blake's *The Descent of Man into the Vale of Death* (1808).

also to be grandiloquent, as in: "The force of life fills out our tissues with its pulsing vibrancy and puffs them up with the pride of being alive". But this is a minor quibble. Nuland is an experienced academic teacher, and we soon settle dutifully at our desks and listen to what he has to say.

In the last two chapters, "Lessons and Learned" and "Epilogue", we come to the core of the book, with a message to take away. Nuland tell us that the dream we have of a serene deathbed scene of leave-taking will be attained by very few. Disease and circumstances will often conspire to make such an end impossible. He suggests that we need to abandon this classic image; that dying with dignity is often beyond our control, even perhaps an impossible goal. Instead, he writes, "the greatest dignity to be found in death is the dignity of the life that preceded it". □

Abraham Verghese is author of My Own Country: A Doctor's Story of a Town and Its People in the Age of AIDS (Simon and Schuster; published in the UK by Phoenix as Soundings), to be reviewed in these pages on a later date. He is at the Texas Tech University Health Sciences Center, 4800 Alberta Av., El Paso, Texas 79905, USA.