

A mind in motion

Owen Gingerich

Galileo: Decisive Innovator. By Michael Sharratt. Blackwell: 1994. Pp. 297. £19.99, \$29.95.

OF all the scientists delineated by biographers, Galileo ranks as a perennial favourite along with Darwin and Einstein. There are more twentieth-century biographies in English of Galileo than of Copernicus, Kepler, Hubble, Shapley and Eddington combined. In recent years, Stillman Drake, Pietro Redondi and Mario Biagioli have produced thematic biographies, while Richard Westfall, Richard Blackwell and Michael Segre have produced important ancillary studies; at least two more biographies are in the pipeline. Do we need yet another?

In approaching Galileo afresh, Michael Sharratt demonstrates a thorough familiarity both with the vast Galilean corpus preserved in the 20-volume so-called "National Edition" produced at the end of the last century and with much of the contemporary literature; and, uniquely, he provides a critical analysis of the current Vatican attempts to rehabilitate the seventeenth-century astronomer who, in Cardinal Poupard's words "had much to suffer". In a sense, Sharratt's is almost a metabiography, for he discusses not only Galileo, but what other recent biographers have been saying about him.

Galileo: Decisive Innovator begins at the provocative fulcrum of Galileo's career, with the application of the as yet unnamed spyglass to the heavens, with the publication of the *Sidereus nuncius* (1610) containing its startling views of the Moon and of Jupiter's satellites, and with Galileo's now-firm commitment to the Copernican heliocentric cosmology. Copernicanism becomes the central theme, as Sharratt shows how Galileo's work in both astronomy and physics was devoted to transforming "the obviously ridiculous into the ridiculously obvious". Although Galileo's contributions to mechanics are prominently displayed (including the work before 1610), they are always subordinated to the central intellectual focus of Galileo's cosmology. In other words, this is a well-framed account of how Galileo got in trouble with the Inquisition, but instead of depicting only the clash of personalities or the drama that led to Galileo's trial, Sharratt paints from a far wider palette, giving the scientific ideas their full due and describing each of Galileo's works in comfortable detail.

Sharratt is at his best when he discusses Galileo's attitude towards the interpretation of scripture. In a nuanced account,

he shows that Galileo was primarily concerned to prevent an ill-judged condemnation of Copernican cosmology, but he undermined his own position by saying that if a proposition is not proved conclusively and contains something contrary to scripture, then it is to be reckoned undoubtedly false. Because Galileo had not, in fact, been able to provide a cogent proof of heliocentrism, and because many churchmen could cite "proof texts" for an immovable Earth, Galileo had "sawn off the branch he was sitting on". Obviously Galileo did not see it that way, and dismissed the scriptural citations as mere colloquial language. As Pope John Paul II has said, "Galileo showed himself to be more perceptive in this regard than the theologians who opposed him".

The fact that Sharratt is a Roman Catholic priest as well as a lecturer in philosophy at the University of Durham

may account for his selection of material, but a reader could hardly discern this fact from a close examination of the book. He is critical of Rome's handling of the matter in the seventeenth century as well as in the twentieth. In a few minor details of historical interpretation I would personally have sketched the scene differently. But altogether this is an unusually well-balanced account.

The book is illustrated throughout with historical black-and-white graphics carefully chosen to reproduce well. I was astonished, however, to note that none of Galileo's first editions is included, and there is only one mediocre late picture of Galileo himself. It is as if the author relied on a provincial library that could offer some rarely seen curiosities without engaging visually with the central works that are so carefully analysed in the text itself. Despite this shortcoming, the book is impressive, and it goes to the top of my list for anyone wanting a comprehensive introduction to Galileo, both the man and his innovations. □

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YOUNG marabou storks (*Leptoptilos crumeniferus*), from *Okavango: Africa's Last Eden* by Frans Lanting. The book's photographs, which won the author the title of BBC Wildlife Photographer of the Year in 1991, provide a rich and original portrait of the flora, fauna and landscape of this 8,500-square-mile wetland. A spectacular browse. Robert Hale, £27.99.