



The scientific exploration of Mars

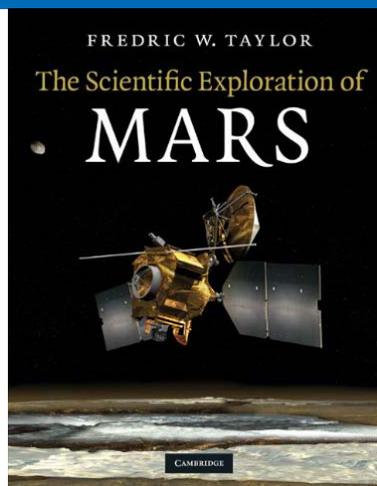
by Fredric W. Taylor

Cambridge University Press, 2010.
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£30.00 (hbk).

Despite the broader approach suggested by its title, the focus of this book is firmly on recent and current exploration of Mars by spacecraft. Although it does provide an introductory overview of the history of earth-based observation, this is cursory in the extreme and the reader might well wish for a fuller treatment of the excitement, achievements and misperceptions of the age of telescopic observation of the Red Planet. Perhaps it was felt that such a treatment had already been provided in William Sheehan's 1996 monograph *The planet Mars: a history of observation & discovery*, but a more nuanced coverage here would have more effectively contextualised the remarkable achievements of Mars exploration in the space age.

Written for a broad audience of interested scientists, amateur astronomers and general readers, the volume steers a judicious course that carefully combines scientific insight and accessibility. Where it is at its strongest is in the identification and explanation of the key scientific objectives that have driven the explo-

ration of Mars by spacecraft, as well as in the authoritative assessment of the extent to which such objectives have been achieved with regard to our understanding of the Martian surface, atmosphere, climate and potential to support life, either now or in the past. Few are better positioned than Fredric Taylor to write such a book. As well as being Halley Professor of Physics at Oxford, he has been closely involved in solar system exploration by spacecraft, having spent many years in the Space Science division of NASA's Jet Propulsion Laboratory, as well as having participated in the planning of Europe's *Mars Express* mission. As a result, he is in a privileged position to set the science within the larger framework of political and practical considerations, as well as managerial and budgetary constraints. Although much of this will be new to most readers, one nevertheless wonders whether too much space is devoted to the deliberations of working groups and to concept missions that, quite literally, never got off the ground.



Taylor ends his account with a lengthy speculative section on likely plans for Mars exploration, both manned and unmanned, in the near-to-mid future. Here he emphasises the uncertainty of his predictions and their susceptibility to political and economic whims. This is wise indeed, for the cancellation of

NASA's *Constellation* programme at the very moment of this book's publication will have done little to advance the cause of the scientific exploration of Mars.

There are a few instances of rushed proof-reading and miscaptioned illustrations, but overall this volume is beautifully produced and engagingly written. It may be read with profit by all interested in the ongoing study of Mars.

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