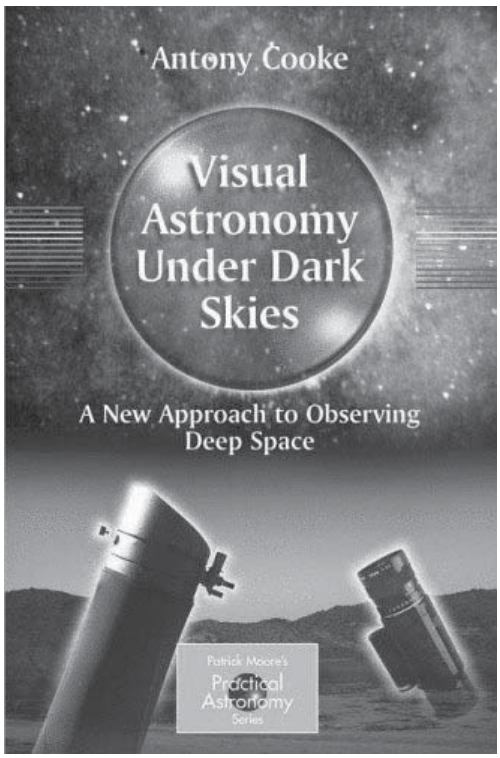
Visual astronomy under dark skies



by Antony Cooke

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This book follows on from the author's previous publication, *Visual Astronomy in the Suburbs*, also published by Springer. Anyone purchasing it solely on its title might be surprised by the content as the book is predominately concerned with using image intensifiers and video camera eyepieces rather than with conventional visual observing.

Image intensifiers were developed for military applications and the latest generation III devices used by the author and considered best for astronomical purposes (the Collins Electro Optics I_3) are still subject to export restrictions in the USA. While generation I and II devices continue to be available, the author makes it clear that these are inferior. A description of eyepiece-type video cameras seems out of place in a book on visual observing, but the author describes how he uses one to obtain hard copy from his intensifier and this is how the images in the book were obtained.

Despite being available for several years, image intensifiers have not caught on amongst amateur observers in Britain. One reason might be their cost but also, as the book explains, they need a dry atmosphere to operate efficiently – this would certainly restrict their use in much of the UK. Another problem with observing through an intensifier is the resulting small field of view. Observers used to the wide fields of modern eyepieces may find it restricting to return to smaller fields more normally associated with Huygen and Ramsden designs.

The author states that using an image intensifier can triple or quadruple the effective aperture of a telescope. However the images, which are said to be representative of what can be seen through an intensifier, do not bear this out. As they were obtained using an 18 inch (45cm) aperture telescope from a dark Californian observing site, and frequently appear inferior to the views I can see from my East Anglian site with a smaller aperture telescope, I assume they have been very poorly reproduced. The author, a committed fan of intensifiers, frequently raves about the superior images achieved and how much extra detail can be seen with them, yet nowhere in the book are there comparison views to show this. What are needed are sketches of objects with and without intensification.

The first part of the book explains the basic operation of intensifiers. The wording here is sometimes clumsy and I found myself re-reading some sentences to understand what the author was saying. The explanation is also quite superficial. After a chapter on choosing a dark sky site, there follows the major part of the book which describes the different classes of deep sky objects and highlights many of the brighter and well known ones describing how they appear through an intensifier. Unfortunately the images just do not do the descriptions justice.

A final chapter discusses telescope types and the future of visual observing. While I agree with some of the comments made, I feel that much of this material would be better placed in the 'rant' section of a personal web site rather than in a book. An appendix lists suppliers of equipment and astronomical associations. The BAA is mentioned but the Webb Society, a dedicated deep sky organisation, is not. There are no biographical details about the author other than that he is a dedicated visual observer.

The use of image intensifiers in amateur astronomy is an area that has been neglected and this book, although rather light weight, goes some way to redressing that. Unfortunately it is let down by the poor quality of the images and the lack of comparisons with conventional eyepiece views. Anyone wanting detailed technical information on the operation of intensifiers will also need to look elsewhere.

Stewart Moore

Dr Stewart Moore is Director of the BAA Deep Sky Section. A keen visual observer with a particular interest in planetary nebulae, he observes from rural Essex without image intensification.