Book Review

First Magnitude: A Book of the Bright Sky by James B. Kaler (World Scientific, Singapore, 2013)

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It was with much anticipation that I sat down to read “First Magnitude: A Book of the Bright Sky,” by James B. Kaler (World Scientific, 2013), because for years I have enjoyed several other works from this prolific author of accessible and informative astronomy books. Indeed, as a professional astronomer, I have on many occasions referred to my worn copy of Kaler’s “Stars and Their Spectra” to fill gaps in my education.

“First Magnitude” has much in common with Kaler’s other, earlier books. First and foremost, it has a down to earth yet often lyrical prose style that clearly communicates Kaler’s enthusiasm for his subjects. Here those subjects are the brightest celestial objects — planets, famous or noteworthy stars, and suchlike — things that can easily be identified and observed by non-experts without telescopes or even binoculars. These are the brightest objects in the sky, the things that are of, or at least close to, the “First Magnitude” of the title.

The book starts out with the basics. It begins by describing the Sun and Moon, their orbits and visible variable properties, and what can be inferred from a thoughtful scrutiny of how they change over time. For example, “First Magnitude” describes sunspots, the origins of the seasons, and demonstrates how the ancients determined from lunar eclipses that the Earth is round. “First Magnitude” then moves on to much fainter (but still bright) targets: the planets, variable stars, and even such things as shooting stars. That is not to say that

everything described here can be seen with a trivial amount of effort. Actually, I like that a few of the targets have a more challenging character: these will reward the reader who makes the effort to get out and see them. This book would be a good choice for someone who wants some basic guidance on how to view meteor showers, for example — provided that person has at least a bit of patience and perseverance, and perhaps some coffee. “First Magnitude” concludes with a survey of the most prominent (and famous!) stars, and a consideration of the Sun’s future. This last topic is really the only one that does not describe things the reader can go out and see on demand.

“First Magnitude” works well as a non-technical introduction to naked-eye astronomy. It is mainly oriented toward readers who are just starting on their personal journeys of scientific exploration. Although some material does overlap with what is typically presented in introductory astronomy courses at the high school or even college level, “First Magnitude” is probably best for parents of young astronomy enthusiasts, who might like to use the book as a means of getting their budding scientists to engage with nature. It would also be suitable for readers of high school age who are ready to pursue an interest in the sky without close parental guidance. Two ideas recur frequently: first, a wide range of celestial wonders can be seen even in the bright, light-polluted skies under which most of us now typically live. Second, you can learn an astonishing amount about the universe even if you are

not a professional astronomer, and you do not need fancy equipments to do it.

This book is at its best when unleashing its descriptive power in a kind of ‘stealth’ science class. It is delightful how the history of eta Carina, for example, makes manifest the behavior of variable stars. Kaler makes a clear connection between meteors and the primordial solar system. The origin of seasons has already been mentioned. “First Magnitude” is chock-full of this kind of thing. Many times when reading this book I said out loud, “So *that’s* why it’s that way!” A personal favorite is the brief digression on the history of constellations.

“First Magnitude” does have some flaws. Given that it is clearly written to generate excitement about astronomy, I was disappointed at the number of rather unappealing figures. For example, several of what could be called ‘star charts’ are saturated, to the point that one must squint pretty hard to tell the bright and faint stars apart. It is hard to recognize the constellations that way. Some of the diagrams would have benefited from more color and clarity, like the cutaway drawing of the Sun. Crisp,

full-color figures (such as typically appear in Kaler’s earlier offerings from Scientific American Library) would have served the purpose of this book much, much better than the halftone drawings. The book would also have benefited from just a bit more editing. Some of the longer sentences, though lyrical, are hard to follow to the end. And it was a bit jarring, in an otherwise excellent passage about Kepler’s contributions, to run across an obvious typo stating that Copernicus developed the Harmonic Law.

With “First Magnitude,” James Kaler does a very effective job communicating his love of astronomy. One cannot help but share the joy he takes in his subject. “First Magnitude” provides an opportunity to transmit some of that joy to young people who are just starting to develop an interest in science.

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