

THE *Prairie Astronomer*

Astronomy Day 1990 A Big Success!

by Dave Knisely

fusion, the authors introduce a "poorly understood process called core refrigeration" to describe core radiation imbalance prior to supernovae explosions. I have yet to see such a term used in any of my astrophysics texts (it may be that the process is poorly understood by the authors). Next, the authors incorrectly lump novae and supernovae together, implying that the only difference between them is their brightness. It seems that the authors may really be only geologists, but the problems with the astronomy portions of the work make me wonder about the accuracy of the rest of the book.

The following chapters are fairly good, and cover not only surface features of the planets, but surface compositions, conditions, and histories. In most books, the Earth is covered first, but in this book, the moon is dealt with first, followed by Mercury, Mars, Earth, and Venus. This could result in some confusion, since most people are familiar with Earth and its landforms. I also had a few problems with the discussion of plate subduction zones on Earth. The book does have a fair set of maps of major areas on Venus and Mars, although the Martian maps do not cover the entire surface. The Martian maps are not arranged in any logical order, making it difficult for the reader to develop a global picture of the Martian surface. The albeit features visible from Earth are not covered either on the maps or in any full-disk photographs, and the atmosphere of Mars is slighted.

The Jovian planets are not as well covered as are their many icy P53 moons, which is to be expected since there isn't much geology on a gas giant. Still, I would have liked to have seen more information about their atmospheres, magnetic fields, and meteorology than the brief one or two pages given to each planet. Detailed maps of the surfaces of many of the moons are present, as are many of the now famous Voyager pictures. The discussion of the surface features of the moons was fairly interesting. However, the authors' apparently weak background in astronomy was again visible in several places, most notably in the discussion of the formation of Saturn's ring system. The authors fail to understand that material in the rings probably stopped accreting due to the tidal effects of Saturn alone, and not because of orbital resonances with Saturn's major moons, as stated on page 337. The fact that the ring system is located inside the Roche limit is proof enough of tidal influence.

There are a few other problems with the book, but by and large, they don't hurt the book terribly much. The work is a pretty fair source of information for those more technically minded than the casual browser, but I can think of several other books on the solar system that are better. The authors really needed to do a better job of organizing things and checking some of their astronomical information before they got down to writing EXPLORING THE PLANETS. This book isn't bad, but it could easily have been a lot better.

The Prairie Astronomer

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Next Meeting May 29, 1990

The May 5th, 1990 edition of Astronomy Day, held at Mueller Planetarium was definitely the most successful in the club's history, drawing over 200 people to a multifaceted display that featured nearly everything Amateur Astronomy has to offer. The computers clicked (after a few minor difficulties), the video played, and the Planetarium was filled for three shows. The display included telescopes, posters, a space shuttle tile from Columbia, and the flags flown on the final mission of Challenger. We received a number of inquiries about the club and handed out quite a few club brochures. The media coverage was good, with our display being one of the lead stories on the Channel 10 evening news. A hearty thank you goes out to all who helped in any way with the display. And a special thank you goes to Jack Dunn, who let us use the lobby of the Planetarium. Let's do it again next year!

President's Message

by Ron Debus

Winners of last months door prizes: Lee Thomas, Ted Gibb, Dave Knisely, Bev Hetzel and me. Winner of the solar filter was Eruk Hubl and finally, winner of the dollar prize was C.J. Brown. By the way C.J. also had his picture in the Lincoln Journal paper with his telescope. I'll expect an autograph. C.J. displayed his Galilean Refractor at Astronomy day which I believe was one of the best we've had. Jack and Dave did a wonderful job setting everything up.

This month's meeting we will be ordering club jackets and T-shirts, etc. As in the past, you must know your sizes. There's no returns. Prices with out taxes.

Jackets \$14.75 through \$32.00 T-shirts \$ 4.75 through \$10.00
Coaches shirts \$13.50 through \$13.75 Sweats \$ 9.50 through \$23.00

So far I believe most of us have had no complaints. I have ordered from Diers four times and I'm completely satisfied. See all of you at the next meeting. Let's have a good turn out.

The Reviewer

by Dave Knisely

EXPLORING THE PLANETS

by W. Kenneth Hamblin and Eric H. Christiansen
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EXPLORING THE PLANETS, by W. Kenneth Hamblin and Eric H. Christiansen, is an interesting attempt at bridging the gap between coffee-table picture books and serious texts on the solar system. It contains most of the latest information from spacecraft, including the results from Voyager II's encounter with Neptune, along with an extensive background on the major bodies in the solar systems.

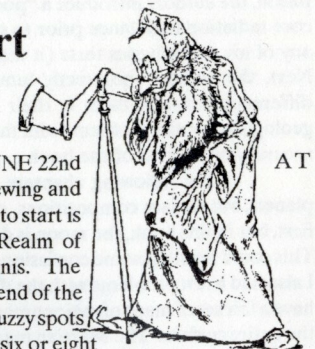
The work is divided into 15 chapters covering the geology and moon systems of each planet. Two introductory chapters set up some fundamental concepts of planetary science, along with some of the geological terminology used in the book. There are a few problems with the overview of the solar system, mostly in the redundancy of the information. The overview of the planetary bodies should have given a thumbnail sketch of the planets instead of the detailed descriptions of things like all the major moons, which are covered much better in later chapters. A particularly glaring error occurs on the caption of the photograph on page 24 which incorrectly identifies a picture of the Great Orion Nebula as "The Crab Nebula". Also, in a section on nuclear

CONTINUED ON LAST PAGE...

The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc., and is free to all club members. Membership status and expiration date are listed on the mailing label. Membership dues are: Junior Members and Newsletter Only Subscribers...\$10/yr; Regular Members...\$24/yr; Family Memberships...\$27/yr; Address all new memberships, renewals, or questions to THE PRAIRIE ASTRONOMY CLUB, INC., P.O. BOX 80553, LINCOLN, NE 68501. For other club information contact one of the following officers: Ron Debus (Pres)435-5688, Dave Knisely (V.Pres)223-3968, Kim Ellen Owen (Sec)423-7440, Lee Thomas (Tres)483-5639, Jack Dunn (2nd V. Pres)475-3013. All newsletter comments and articles should be sent to Newsletter Editor JOHN LORTZ, 12023 PARKER PLZ #105 OMAHA, NE 68154 no later than 7 days before monthly club

Observing Chairman's Report

by Dave Knisely



THE NEXT STAR PARTY WILL BE HELD ON FRIDAY, JUNE 22nd AT THE ATLAS SITE. Galaxies once again dominate late Spring viewing and more than make up for the fewer hours of darkness. A good place to start is the so-called Markarian chain that lies near the center of the Realm of Galaxies in Virgo, halfway between Denebola and Epsilon Virginis. The bright giant elliptical galaxies M84 and M86 lie near the south-west end of the chain about a quarter of a degree apart, and appear as small round fuzzy spots in small telescopes. Many fainter galaxies are visible in the area in six or eight inch apertures. None show much detail, but nine or ten can be seen in a one degree field centered on M86 when an eight inch aperture is used. The chain runs roughly west to east for over a degree before it curves northward, and contains about 20 galaxies.

M61 is an interesting spiral galaxy, located 1.25 degrees north and a half each of 16 Virginis. Small instruments show it as a moderate sized faint disk of light with a slightly brighter middle. An eight inch will show its star-like nucleus, while a ten will show some mottling in the patchy outer haze.

In southern Virgo, about 3.75 degrees south of Chi, is the famous Sombrero Galaxy, M104. Visible in binoculars as a tiny faint fuzzy spot, this galaxy appears as a faint fuzzy spindle in small instruments. On a good night, a six inch at about 80x will begin to show the dark lane that gives this object its name. In a ten inch, the dark lane is distinct and slightly curved with the lower half of the nuclear bulge being easily seen below the lane.

Northward in Coma Berenices are a number of interesting galaxies. M100 is a fairly bright nearly face-on spiral that can be found about 1.75 degrees east and one north of the faint star 6 Comae. Although visible in small telescopes, this object does not show its spiral structure well, since the arms are fairly tightly wound. An eight inch may show hints of the outer arm fans, while a ten inch under good conditions will show mottling and hints of very narrow arm structure. About a degree east and a quarter north of the pretty double star 35 Comae lies the "Black-Eye" galaxy, M64. It is visible in binoculars as a tiny faint fuzzy spot and does not show much detail until at least a six inch aperture is used. Then, at moderate to high power, a small dark spot can just be glimpsed north of the nucleus. In eight or ten inch telescopes, the dark spot turns into a short dark arc that seems to hug the nucleus, giving the galaxy its "black-eye" appearance.

In Ursa Major is the famous but difficult to observe galaxy, M101. It can be seen in binoculars if you look about five degrees east and a half south of Alcor (80 Ursa Majoris), but it is a tough object for small instruments due to its low surface brightness. Moderate apertures will show the slightly brighter nuclear region, but ten or twelve inches will be needed to reveal much of the patchy spiral structure.

My favorite spring-time galaxy has got to be M51, the Whirlpool p73 galaxy. It can be found about 1.75 degrees south and one west of 25 Canum Venaticorum, and is visible in most finder scopes. Small telescopes will show it and its companion galaxy, NGC 5195, fairly easily. A six inch will show the nuclear region and hints of mottling in the main galaxy. Under good conditions, an eight inch will just begin to reveal the spiral structure, but the view is somewhat better in larger instruments. In a ten, the spiral arms begin to show lumpy structure, and in a twelve inch, the bridge of material between M51 and its companion is sometimes visible.