

# Geminid

a publication of the Minnesota Astronomical Society

DECEMBER, 1991

VOL. 16, NO. 6

PLEASE COMPLETE THE MEMBER SURVEY QUESTIONNAIRE IN THIS EDITION AND RETURN IT ASAP

## UPCOMING EVENTS

### December

3 Regular MAS meeting, 7:30 p.m., Science Museum.

5 New moon.

13-14 Peak of the Geminid meteor shower. Rate to 70+/hr.

20 Full moon.

21-22 Peak of the Ursid meteor shower, a north circumpolar shower with a rate of 10-15/hr.

### January

2-3 Peak of the Quadrantid meteor shower. Rate near 70/hr. Northern latitudes favored.

4 New moon.

7 Regular MAS meeting, 7:30 p.m., Science Museum.

19 Full moon.

## THE VOICE IN THE WILDERNESS

By Howard Doweiko

Readers of my last columns might have noticed that I have retained an emphasis on solar eclipses, long after July's total eclipse of the sun. This might puzzle some readers, especially in light of the fact that Minnesota will not enjoy a total eclipse of the sun for many, many decades to come, but there is a reason for my emphasis on eclipse photography.

On Tuesday, May 10, 1994, a little more than two years from now, the United States will be graced by an annular eclipse of the sun. This is to say that, although the moon will pass in front of the sun, the orbital dynamics of the moon will make it appear slightly smaller than the sun's disk in the sky. Rather than achieving totality, there will be a small ridge of the sun's disk, called the annulus, visible around the moon.

In a "normal" eclipse of the sun, the moon's shadow touches the earth for an all too brief period of time (Figure 1). However, because the moon's orbit takes it further from the earth at some points than at others, there are times when the sun, earth, and moon line up but the moon's shadow will not reach the earth's surface. When viewed

Figure 1

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from the surface, the moon's disk will appear slightly smaller than the sun's disk. This is an annular eclipse of the sun.

Admittedly, this will not be quite as exciting as a total eclipse of the sun. On the bright side, if you'll pardon the pun, Minnesota astronomers will be able to drive down to the eclipse. Preliminary calculations place the path across parts of Kansas, Iowa, and Illinois, roughly a day's drive from the Twin Cities.

It will be necessary to view the eclipse through appropriate solar filters. There is sufficient time for you to start planning your observing trip, start planning an observing site, and start saving up for any additional equipment that you might want to use for the eclipse.

What will you see during the eclipse? Well, during the earlier stages of the eclipse, you will see the moon's disk sliding slowly across the sun's face. If you have the appropriate solar filters on your telescope, you will be able to see the silhouette of some of the mountains along the edge of the moon against the sun's disk. At the moment of maximum coverage, you will see a thin ring of the sun around the moon's disk (Figure 2).

Figure 2

<b>GEMINI</b>	
Editor.....	Carl Harstad
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Admittedly, this might not be as exciting as a total eclipse of the sun but, if the weather cooperates, it will offer the opportunity to view an eclipse, which is always a challenge. Because you will view the eclipse in the United States, you will have the opportunity to listen to local weather reports and to drive to an area with the best chance of having clear weather.

At last word, they even have McDonald's in Iowa, so that you can eat what passes for decent food down there.

## ANNOUNCEMENTS

Upcoming programs:

Dec. 3: Elections for club officers. The program will be a presentation via tape by Jack Horkheimer, aka The Star Hustler. Jan. 7: To be announced.

All programs will begin at 7:30 p.m. in the auditorium of the Science Museum of Minnesota. Please call recorded message at 643-4092 for updates and last minute changes.

The phone message can be used for announcements that should get out to members between issues of *Gemini*. If you have an announcement, please call Max Radloff at 451-7680, or leave it as a message after the recorded message.

The announcement of board meetings will be included in the recorded message in the future.

We regularly get questions about membership renewal. The MAS does not sent out renewal notices. About three or four months before your membership expires, you will receive a card from *Sky & Telescope* informing you that your subscription is about to expire.

To renew your membership, return this card along with your dues to our treasurer, Richard Nelson. *Sky & Telescope* will eventually send a second notice, but by then it will be difficult to get your magazine on time.

The current dues for regular members are \$33.

Star Parties :

The next star party will be in spring. We will try to get the schedule set up so it can be published in the next newsletter. The phone number for Baylor park that was published on the maps has been changed yet again and is now a local number. The new phone number is 448-6082.

## VOLUNTEER SPEAKERS NEEDED

The MAS has been asked to provide speakers for two talks about astronomy. One talk is Sunday Dec. 15, 1991, at Hennepin United Methodist Church, near downtown Minneapolis. The other is Jan. 8, 1992, at Wayzata Community Church in Wayzata.

If you would like an opportunity to share your interest in the sky, please contact Bob Liesenfeld at 457-5397 for more information.

# DEEP SKY EYE

By Max Radloff

object in Cygnus. It is plotted, but not labeled, in Tirion between 72 and 74 Cygni.

There is nothing like two feet of snow on Halloween to put a damper on late fall observing. I suspect that most telescopes in Minnesota are packed away for the winter, and like other winters only a few hardy (or fool-hardy) souls will actually look through an eyepiece before March.

For those who have become arm-chair astronomers for a few months, this column offers a review of a new observing guide, with one sample for those who continue to observe in winter.

Planetary nebulae are quite numerous, but I suspect there are very few amateurs who have observed more than 50 of them. The reason is that once you get beyond a few showpieces like M 57 and M 27, planetaries tend to be either quite large and extremely faint, or bright but so small as to be stellar in appearance.

The most commonly-used atlases are of less value than they could be. The planetaries plotted in the Tirion *Sky Atlas 2000.0* are often quite difficult to view, while many relatively easy ones are omitted.

*Uranometria 2000.0* plots all the known planetaries, most of which are invisible in smaller amateur instruments.

The value of a good observing guide is it can point you to some little-known objects that are of only moderate difficulty, as well as providing finder charts for the more difficult objects.

Willmann-Bell has recently published Steven J. Hynes book, *Planetary Nebulae: A Practical Guide and Handbook for Amateur Astronomers*. The book has extensive notes on the physics and observation of planetaries, a complete catalog of all the nebulae discovered by May, 1990, and an extensive series of finder charts.

An observing guide structured along similar lines, Volume 2 of the *Webb Society Deep-Sky Observers Handbooks*, appeared about 10 years ago but it was rather disappointing. The book suffered from poor editing, including numerous typographical errors, chaotic organization and some quixotic editing choices, like publishing coordinates for era 1975.0. The book itself was poorly made, being reproduced from typescript and having a binding that quickly fell apart with use.

I am happy to report that *Planetary Nebulae* is a much better book and, while not perfect, it can be recommended to any amateur who feels the need for an in-depth observing guide. To begin with, *Planetary Nebulae* is a well-made book. It has hard covers, nice heavy paper printed in a legible type and pages sewn in signatures so that it should stand up to extended use in the field.

The first three sections cover the history of the observation of planetaries, their astrophysics and a discussion of the types of objects that can mimic the appearance of planetaries.

The next chapter provides an in-depth discussion of how to observe planetaries and includes a number of sketches by the author. The bulk of the book is the catalog. There are extended notes on about three dozen objects including references to professional journals. This is followed by a cross index of names (very useful), a list of misidentified planetaries, the main catalog of 1,340 objects and 253 finder charts.

Also included are a bibliography, a reference list of discovery lists, and four indices. In sum, it is a well-written and well-organized book.

I have noticed some places where there should have been more careful proof reading. Some names are missing from the cross index, including some for which there are finder charts, and there is one finder chart for a planetary that is not in the catalog (perhaps a typo). Errors are inevitable in data-rich publications like this, but as far as I can tell from a first examination, they are not numerous enough to be objectionable.

I have not had the opportunity to field test the charts, but have included one here if you would like to try it out. The chart is for Humason 1-2, a 12th magnitude

The finder chart has been reduced to 75 percent of the original size so it will fit the column width of the newsletter. Note that it is fairly narrow, about 20 arc minutes wide, so it will only represent part of the field of a low-power eyepiece. Humason 1-2 should be quite easy to observe. I observed it three years ago and my notes say, "easy to spot, disk seen even at low power (48x), at 300x appears as a star in an oval, very nice".

*Planetary Nebulae* sells for \$24.95 and, like most astronomy books, can be ordered through the club at a 15 percent net discount.

Good luck, clear skies, and stay warm.

## LETTERS TO THE EDITOR

### To the editor:

I've bad news and good news. As you can see, we've now relocated to Oregon and can no longer participate physically in the activities of the MAS (sob).

But we'd like to see whatever issues of Gemini remain to us, so please change our address---thanks.

However, we now own half of an Odyssey 13-inch 'scope (yea!) (which half I'm not sure, but seeing as how the other owners--our very good friends Chuck and Lindie--resist my drilling a hole into the top end of the precious thing for a finder mount, it must be the heavy half with the mirror).

Also: the skies, contrary to popular opinion, are simply great here for lack of cloud cover (at least near the coast and in the summer)! Since we can see the Cassini ring division most nights (and Saturn being so low), the sky quality must be at least as good as what I enjoyed in Minnesota.

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## LETTERS

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The "observatory" is about six miles inland from the ocean, at about 500 feet altitude, and about that distant from the small town of Waldport. Another location tested at three miles inland and the same altitude was consistently worse for turbulence. Another item of note for Twin City area folks concerns those 60mm telescopes (Jason 60x800mm with the usual accessories) that COMB closed out a while back for as little as \$39. I couldn't refuse one and, after a few adjustments (required some black paint inside, stop relocation, bearing adjustment), it performed amazingly well.

It's routine to see a nice set of diffraction rings around the brighter stars and color differentiation between bright multiples like Mizar's system. The Barlow works well.

We're having very good experience using inexpensive-to-free fixed magnification (ie: non-zoom) rifle 'scopes for finders. Good ones can be found at gun swap meets for \$25 to \$30. I recommend the common 4x32. It has a very long throw on its big exit pupil and the stars are quite bright through it.

Using such a clear and "user-friendly" finder with its erect image is a pleasure by comparison with the normal finders sold with telescopes. The optical click adjustments for windage and elevation of the crosshairs is infinitely easier and far more precise than those darn three-screw adjustment rings!

And needless to say, rifle scopes are very tough, filled with nitrogen to prevent internal dewing/deterioration, and precisely adjusted to place the crosshair exactly at the objectives prime focus (with the usual ocular accessory focus and lock).

Cosmetically damaged rifle scopes are often thrown away or parted out by dealers since they detract from the value of the rifle.

'Bye for now, Craig.

P.S. We've a swell and simple mechanical device to set equatorial coordinates into a Dobsonian or other A-A mounted 'scope. It simply sets on the 'scope like a finder, using a circular level and a distant light for reference. I submitted it a long time ago (twice!) to *Sky and Telescope* and more recently to *The Reflector*, but it looks like they don't want to use it. Interested in seeing the article with illustration?

**Editor's note:** Yes, of course I'm interested Craig. Please send it.

This editor always welcomes articles with open arms, except those too deep for me to understand. For example, watch your mailbox for an issue containing *Cooking With Your Cassegrain*, an article on using a Celestron to fry the tasty tidbits you may find lying (or hopping) about during solar observing sessions.

**To the editor:**

I'm a member of the Willmar Amateur Astronomy Club and close friend of Randall Wehler, who is a member of the Minnesota Astronomical Society as well as the Willmar club. Randy and I often discuss astronomy, not only core topics, but the lighter side as well.

Recently we discussed the often belabored debate concerning "real work" versus casual observing. As a result of this discussion, Randy came up with a title for a fictitious book: *Banished from Baylor*.

I took it from there and threw together a short book review. Enclosed is a copy of the review. I hope you enjoy it!--Patrick J. Thibault

### BANISHED FROM BAYLOR

New York Times says it's a winner. *Banished from Baylor* is a literary classic. John Anderson of the *Washington Post* calls it riveting and emotionally packed with the core of human drama and conflict found in other classics such as *War and Peace*. Johnson of the *Atlantic Times* calls Wehler an American hero in the spirit of Hubble and Shapley.

*Banished from Baylor* is an epic story of a brilliant amateur astronomer, Randall Wehler, who is faced with abandonment from the established amateur astronomy community.

During a Messier marathon Wehler finds himself racing the clock in pursuit of his final M-object of the night. Up to this point, Wehler leads his fellow combatants by only a few seconds, but suddenly Wehler is thrown off stride by a long-focus refractor's purposeful encroachment.

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### ELECTED POSITIONS

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Wehler, stunned by such sniveling sportsmanship, erupts into a rage not seen before; after a litany of pejorative cant he spew at each of his peers, he begins to tear and destroy every instrument in sight.

He soon finds himself in a court of law being sued by the amateur community and banned for life from membership.

Wehler, shocked and disenfranchised, withdraws from deep-sky observing. He and his family pack up and head to a small community far from the harassment of the astronomical community.

Here the strength of Wehler is seen; his love for astronomy starts him on the road to regaining his status in the eyes of his peers. But first the struggle.

Wehler must convince a small community to join him in the pursuit of amateur astronomy. He starts a club called The Edge-O-Towners, a group of fledglings, a group that couldn't find the North Star or star hop to a McDonald's, but becomes a group that does serious work.

Wehler drives this group to build an observatory and to do research on red dwarfs. The culmination of their research results in a national award which the club members receive at a national convention.

Here Wehler must once again face the peers that he attacked. This leads to a catharsis. Wehler, struck by anguish, walks up to receive the award and his peers begin to applaud in a forceful salute.

Wehler breaks down into tears, as his journey ends.

Banished from Baylor, by Patrick J. Thibault (Willmar Fictitious Press, 1991), ISBN Z-12, 1,753 pages, in three volumes. Hardcover with case, \$352.00.

MINUTES

Board Meeting of Oct. 22, 1991

This meeting continued the discussion of the Aug. 27 meeting about how to proceed with the observatory project. After extended discussion, a general consensus emerged on best general way to proceed.

We will have to approach the Onan Family Foundation to see if there are any restrictions on the use of the \$20,000 grant. Mary Williams said that the money was given as a capital grant, and given the difficulty of obtaining capital grants, it would be wise to reserve it for this purpose.

Mike Kibat and Mary Williams will talk to the Science Museum, the Planetarium, and the University to see what opportunities there are for cooperation in programs and fund-raising. We will plan a building to house the 16-inch Cassegrain.

This will be the first phase of an on-going project and it is planned to build it in 1992. The first preference is to build it at Baylor, although other sites like Wilder will be reconsidered. Other facilities like a classroom and equipment like computers, a CCD, and other telescopes such as a very large Dobsonian will be added as funding allows.

A poll of the membership will be taken to evaluate the level of support for the project. Al Ominsky will contact the people at Wilder to see about the circumstances there for building and funding.

Regular Meeting of Aug. 6, 1991

Nominations were made from the floor for the offices of Vice President, Treasurer, and Board Member at Large. The slate of candidates including these nominations is elsewhere in this issue.

- Super Polaris equatorial mount with aluminum tripod, polar axis scope, tray etc. \$450.00

- Brandon eyepieces: 8, 12 and 24 mm. Never used. \$150.00 the set.

- Televue 1.8x Barlow. \$60.00

Please call Brad Beisel 338-1330 days.

20-inch f/5 Obsession telescope. One year old. Asking \$3,500. Call John Nymark at 929-3326.

MEMBERSHIP AND SUBSCRIPTION FEES

- \$33 Regular membership with subscription to Sky & Telescope
- \$26 Student membership with subscription to Sky & Telescope
- \$9 Student membership without subscription to Sky & Telescope
- \$9 Non-member subscription to Gemini.

SITE COORDINATES

Metcalf site: 44° 56' 16" N. + or - 3"  
92° 49' 19" W. + or - 5"

Baylor site: 44° 48' 34" N. + or - 3"  
93° 56' 23" W. - or - 4"

NON-ELECTED POSITIONS

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