



Issued by the

*Milwaukee Astronomical Society*

October 1988

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Meteor Showers

Orionids - October 20. Peak at 3 AM.  
 Rate of 10-70/hr. Look south.

Taurids - November 9. Peak at 11 PM.  
 Rate of 5-15/hr. Look south.

Leonids - November 16. Peak at 4 AM.  
 Rate of 5-20/hr. Look south.

Andromedids - November 25-26. Peak  
 at 9 PM. Rate of 10/hr. Look south.

Last Call for Dinner!

You've received a flyer announcing the 20th Annual MAS Dinner. There is still time to join other members and guests for an enjoyable evening at a fine dining place featuring a noted speaker.

**WHEN:** Friday, October 21. Cash bar 6-7PM. Buffet dinner from 7-8 PM featuring roast beef sirloin or sliced breast of turkey. Program at 8 PM. No business meeting.

**WHERE:** The Boulevard Inn, Sherman at Lisbon, Milwaukee, 445-4221. Ample free, well-lit parking.

**SPEAKER:** Dr. David Crawford of the Kitt Peak National Observatory, a well known authority on the subject of light pollution and co-founder of the International Dark Sky Association. He is a vigorous proponent of low-pressure sodium shielded lighting and is also active in designing and making a new generation of large, professional telescopes.

Reservations and payment payable to the Milwaukee Astronomical Society, and must be mailed on or before October 17 to Matt McNeely, 8200 N. Cedarburg Road, Brown Deer, Wisconsin 53209 (354-5347).

Please state your name, phone, and number of reservations at \$12.00 each.

Another Invitation!

Our banquet speaker, Dr. David Crawford, will meet with members and will highlight a program at the observatory Saturday night, October 22. The reception will be from 7:30 PM until ?? He will discuss light pollution and other items of general interest. All members are welcome. There is no charge.

Calendar of Events

- Friday-Sunday, October 7-9 - Greenbush Star-Party Campout.  
Call 258-5626 for details.
- Monday, October 10 - Board meeting 7:30 PM at observatory.
- Friday, October 14 - MAS Open House (General Astronomy)  
8 PM at the observatory.
- Friday, October 21 - MAS Annual Dinner.
- Friday, October 21 - November "Focal Point" deadline.
- Monday, October 24 - Full Hunter's Moon.
- Sunday, October 30 - Daylight Saving Time ends at 2AM.
- Wednesday, November 2 - First Wednesday meeting at the  
observatory. All welcome.
- Saturdays - Observatory maintenance and  
improvements. Help wanted.  
Call 475-9418 or 258-5626.
- Saturday Nights - Member's night at the observatory.

## Astrofest

Astrofest, an event sponsored by the Chicago Astronomical Society at camp Shaw-Waw-Nas-See about 60 miles south of Chicago, presented awards to four MAS members.

Honored were John Asztalos, for overall design of a 12.5" telescope featuring an internal finder scope; Lee Keith, for a black and white photo of Mars; Dave Krieg, for overall workmanship and excellence on a 20" Dobsonian telescope; and Peter Smitka for electronic work and a trailer for his 17.5" Dobsonian. Congratulations to all!

Twenty-one MAS members attended the annual event.

## Observatory News

New special security keys have been issued to qualified keyholders. The lock change does not affect members who have one dollar keys which allow access to the parking lots. Contact Treasurer Dan Koehler for information about obtaining a special key.

Some tasks will need to be completed soon, especially those to secure buildings and equipment before Ol' Man Winter decides to pitch camp on our property. Volunteers should call John Asztalos at 258-5626. Most of the jobs are light but necessary.

## Loaner Scopes

Two 8" Dobsonian "APOLLO" telescopes are available to MAS members for general use away from the observatory. They will accept either 1.25" or 2" eyepieces.

One is located on the north side at the home of: Matt McNeeley, 8200 N. Cedarburg Road, Brown Deer (354-5347).

The south side location of the other is at the home of: Richard Sterle, 8115 W. Waterford Avenue, Greenfield, Wisconsin (543-7459).

No deposit is required, but an agreement to cover loss or damage must be signed. The loan period is from 14-31 days with an extension possible.

## Dues are Due!

If you haven't already done so, please remit dues to the MAS Treasurer for the 1988-89 fiscal year, which began September 1. Payment of dues is required by September 30 to maintain active membership in the Society. Use the "Membership Renewal" form and return envelope mailed to you during the first week of September. Use the form to obtain (or renew) discounted subscriptions to "Astronomy" (\$14), "Deep Sky" (\$7), "Telescope Making" (\$7), and "Odyssey" (\$10) magazines, as well as for reserving a copy of the "RASC Observer's Handbook" for 1989. A group order will be placed for the handbook in late October, and handbooks will be distributed to members at the December and January membership meetings at the CATC. You may also request a mailed copy for \$1 extra. Subscriptions to all periodicals obtained through MAS membership begin with the January 1989 issues.

Prompt payment of dues is essential for a healthy treasury, and to insure proper receipt of your magazine subscriptions. Members who have not paid dues by October 31, 1988 will be automatically dropped from the Society roster. There will be NO exceptions.

If you've mislaid the return envelope, please send your remittance to Dan Koehler, W248 S7040 Sugar Maple Drive, Waukesha, Wisconsin 53186 (414-662-2987).

## AND...

Please don't forget to fill in the "quick survey" included with your "Membership Renewal" form. It's important to determine the extent of interest in the items listed on the survey. Return it with your dues payment, to Dan Koehler, BEFORE October 31.

## MAS Dues Increase Follow-up

Treasurer Dan Koehler presented an in-depth financial report at the September Program Meeting. His detailed hand-out to members present showed the flow of MAS monies into and out of its treasury and its sources.

The prime sources of MAS funds are income from the Cora Zemlock Fund, dues, and donations. Operating expenses are paid out of dues. Improvements are paid out of interest from the Cora Zemlock Fund. The board decides how the money is spent. You can rest assured that frugality is the key word. The MAS has always believed in "use it up, wear it out, make it do, or do without."

The bottom line is that to keep up with necessary expenditures and to provide for realization of the Society's future plans, it is necessary to increase dues. Members present at the November meeting will further discuss and vote on the issue.

## Final Open House

The final open house for the general public will occur Friday, October 14, at the observatory. The program, "General Astronomy" will start at 8 PM. A jacket and mosquito repellent might come in handy.

The observatory is located at 18850 W. Observatory Road, New Berlin. If you get lost, call 542-9071.

Volunteers are needed for directing traffic, operating your 'scopes or ours, and generally making our guests welcome and comfortable.

## Messier Club Wants You! by Lee Keith

As a reminder to observers, the MAS offers the Messier Club Observer's Handbook if you send an 8.5" x 11" SASE with 75 cents postage to: Lee Keith, Herschel/Messier Club Coordinator, 1239B E. Randolph Court, Milwaukee, Wisconsin 53212. It contains a wealth of information of observing techniques and hints, as well as detailed maps to find the more elusive Messier objects. Best of all, it's FREE!

# Herschel Club's Finest Heavenly Bodies by Lee Keith

DESIGNATIONS: NGC 6514, H10<sup>5</sup>, H11<sup>5</sup>, H12<sup>5</sup>, H41<sup>4</sup>, M20 "Trifid Nebula"

SPECIFICATIONS: Emission / Reflection Nebula in Sagittarius

R.A.: 18h 02m DEC: -23° 02' (2000)

SIZE: 30'; 6th magnitude

LOCATION: Above spout of the Sagittarius "Teapot", in the heart of the Milky Way. 1.5° north of bright M8.

RIGHT ANGLE SWEEP: Starting at LAMDA Sagittarius, sweep 2.5° North and 6° West.

## REFERENCES:

### Astronomy Magazine, July 1982, p84:

John Herschel named the object and described it as "three bright and irregularly formed nebulous masses, graduating away insensibly externally, but coming up to a great intensity of light at the interior edges where they enclose and surround a sort of three forked rift or vacant area, abruptly and uncouthly crooked and quite void of nebulous light... a beautiful triple star is situated precisely on the edge of one of these nebulous masses just where the interior vacancy forks into two channels."

Even if you view it through a small telescope, you'll be impressed at the wealth of detail visible in this region.

### Webb Society Deep Sky Observer's Handbook, Vol 2, p113:

(100", 60") Surprisingly faint for a Messier object; it is large and milky, and does not seem to brighten much toward the center; three prominent dark lanes, almost evenly spaced 120° apart, radiate from the central multiple star (hence the name).

(8.5" & 6") Faint, hazy nebula, seen to extend North to a second bright star.

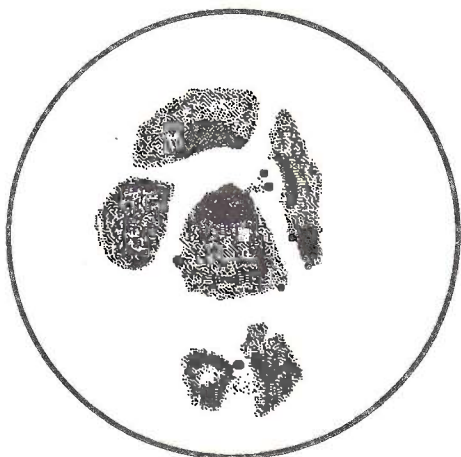
(16x50) Much easier than it appears in larger apertures.

### Observe the Herschel Objects (Pub by the Astronomical League):

Open cluster located in Sagittarius, mag 6.9, 29'x27' in size. Also known as M20, the "Trifid Nebula". Nebulous in appearance, part of and connected to M20. Very bright and large and rich in stars. (6", 48x)

Burnham's Celestial Handbook, p1591:

Messier seems to have seen it only as a cluster of faint stars, the nebulosity lying below the limit of detection of his telescope. Admiral Smyth also found its presence "indicated only by a peculiar glow" which surrounded "the delicate triple star in the center of its opening, the nebulous matter resisted the light of my telescope..." Sir William Herschel found the nebulosity conspicuously divided by a curious pattern of dark lanes, and cataloged the brightest portions as four separate objects. (See J. Herschel's description above) ...the central triple star...an O7 type giant with a computed absolute magnitude of -5.2...the chief components are magnitudes 6.9, 8.0, and about 10.5, with distances of 10.6" and 5.4". ...published distances...show considerable discrepancies, ranging from 670 parsecs (2184 LY) to 2340 parsecs (7922 LY). A "compromise" distance of 1600 parsecs (5216 LY) is quoted in a number of modern lists...



EYEPIECE DRAWING at 117x

## OBJECT DESCRIPTION

NGC/IC No. 6514 Other: Trifid Nebula

Size: 20' Magnitude: 7

Object Type: Emission/Reflection Nebula

## VIEWING CONDITIONS

Date: 5/27/87 Time: 8:10 UT

Seeing: Good Transparency: Ex at times

Observer's Name: Lee Keith

Location: Prude Ranch TSP '87

Telescope Type: 10" f/4.5

Other Conditions: Patchy clouds

## ADDITIONAL NOTES

Deep sky filter used. Trifid slightly smaller than drawn. Lanes, four of them, were straight and clear of nebulosity. Beautiful sight!

Library News by Sally Waraczynski / June Regis

These additions to our library were a tandem offering of the Astronomy Book Club. You are hereby offered a tandem review of material that seems to reflect new directions in cosmology. Some of our members reported that John Dobson, speaking at the Astronomical League convention in July, predicted the not-too-distant demise of the Big Bang theory.

**A BRIEF HISTORY OF TIME: FROM THE BIG BANG TO BLACK HOLES**

*by Stephen W. Hawking*  
Simon and Schuster, 1988.

Only someone with a deep understanding of general relativity and quantum mechanics would attempt to distill their essence for consumption by a popular-level audience. This book reveals not only the workings of "one of the great minds of the twentieth century" as he seeks to "know the mind of God"; it also reveals Stephen Hawking's sense of humor and awareness that science has become too mathematical and technical for all but specialists.

Once the speed of light was measured (found to be finite), Einstein's theories got rid of the notion of absolute time, and the concept of space-time was established. Then quantum theories introduced the uncertainty principle - one can only predict but not measure both the position and velocity of a particle. Both general relativity and quantum mechanics are only partial theories. Science is still searching for the single theory which will describe the whole universe and lead to an understanding of who we are and where we came from. That inclusive theory is characterized as the "quantum theory of gravity."

Hawking leads us along the developmental path toward unified theory to the point where he is now - investigating the implications of a space-time which is finite in extent but without boundaries, something like the surface of the Earth but with more dimensions. The universe might not require a big bang singularity - no beginning - it would just BE!

(Sally Waraczynski)

**THE COSMIC BLUEPRINT: NEW DISCOVERIES IN NATURE'S  
CREATIVE ABILITY TO ORDER THE UNIVERSE**

*by Paul Davies*  
Simon and Schuster, 1988

The author is a Professor of Theoretical Physics at the University of Newcastle upon Tyne. His other books include **GOD AND THE NEW PHYSICS** and **SUPERFORCE**.

The book's main question is if physical processes can explain the complexity of our universe or are there other forces at work shaping everything into higher states of order toward a prescribed destiny or cosmic blueprint.

Based on Newton's laws of motion, the author maintains that at the instant of the "big bang" everything that has happened or will happen was determined. The book then goes on to use mathematical models and recent scientific discoveries to show proof.

The book is highly theoretical and needs a quiet atmosphere to understand and digest the information presented.

(June Regis)

**WANTED:**

The library needs a set of Sky & Telescope magazines for 1987 to maintain our permanent collection.  
If you would be willing to donate these issues, please call the librarian.

## Good News!

Peter Smitka is again offering his telescope-making expertise and ability to anyone interested in forming a "telescope cloning" class. A meeting is planned in November. Work will start in January or as soon as all necessary parts arrive. MAS member Richard Sterle has again offered the use of his workshop.

Call Pete at 785-0926 (home) or 546-4546 (work) if interested. A dozen fine Dobsonians ranging in size from 6" to 12.5" were produced in his class last

## Occultations

A grazing occultation of a star by the moon will occur on October 15 near Germantown. Call John Asztalos (258-5626) or Paul Borchardt (781-0169).

A graze occurs when the moon passes a star so closely that the star disappears and reappears as the moon's mountains and valleys pass by. Another occultation of M45 (the Pleiades) by the moon will occur on Wednesday night, October 26-27, at 0:19 - 3:30 UT (7:19 - 10:30 PM CDT). Although the moon will be 95% sunlit for this passage, it will cross the brightest part of the star cluster. The dark limb events will be reappearances and contacts with five of the *Seven Sisters* will be observable. Please call John Asztalos at 258-5626 for full details.

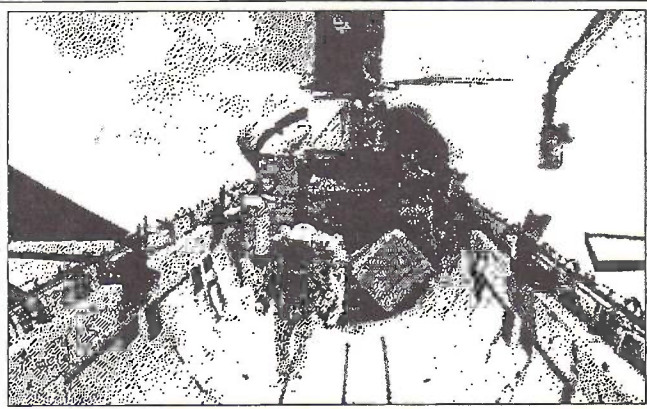
Here is a great opportunity to learn occultation timing procedures!

## Keyholders

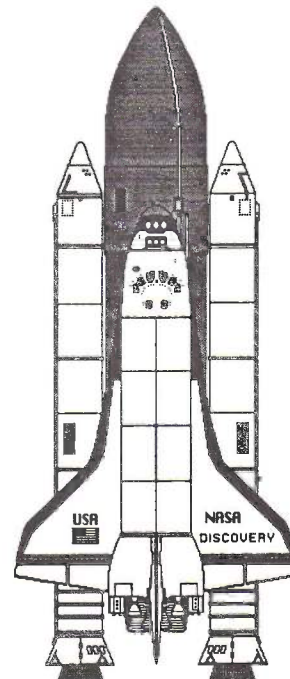
Oct. 8 ..Frank Roldan .....	423-0210
15 ..Terry Ross .....	784-2093
22 ..Gerry Samolyk .....	475-9418
29 ..Tom Schmidtkunz .....	784-0253
Nov. 5 ..Peter Smitka .....	785-0926
12 ..Virgil Tangney .....	327-7976
19 ..Chris Hesseltine .....	482-4515
26 ..Dr. Richard Wiesen .....	781-4757

## Directory

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Observatory Director .....	Gerry Samolyk .....	475-9418
Assistant Observatory Director .....	John Asztalos .....	258-5626
Librarian .....	Mrs. Sally Waraczynski .....	321-0918
Assistant Librarian .....	Mrs. June Regis .....	962-0896
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	4201 W. Highland Blvd.	
	Milwaukee, Wisconsin 53208	
MAS Observatory .....	18850 W. Observatory Road .....	542-9071
	New Berlin, Wisconsin	



- America -  
Returns to Space!



**ANNOUNCING**  
**THE MILWAUKEE ASTRONOMICAL SOCIETY**  
**ANNUAL DINNER**

Friday, October 21, 1988  
at The Boulevard Inn  
(Sherman at Lisbon, Milwaukee, 445-4221)

Cash Bar from 6:00 to 7:00 p.m.

Buffet Dinner from 7:00 to 8:00 p.m.  
includes your choice of:

Roast Beef Sirloin or Sliced Breast of Turkey  
Tossed Salad, Potato, Vegetable, Bread, Dessert, and Beverage

The Program begins after 8:00 p.m. There will not be a business meeting this year.

Our guest speaker will be Dr. David Crawford, Kitt Peak National Observatory,  
well known as an authority on the subject of light pollution

Reservations with payment must be mailed on or before Monday, October 17 to:

Matt McNeeley  
8200 N. Cedarburg Road  
Brown Deer, Wisconsin 53209

Use the form below.  
Make checks payable to the Milwaukee Astronomical Society.

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Name \_\_\_\_\_ Tel.No. \_\_\_\_\_

No. of Reservations \_\_\_\_\_ @ \$12.00 each