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NORTHERN LIGHTS

NORTH CENTRAL REGION

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A Word from the Editor

I want to say thank you to Jim Fox, editor extraordinaire, who for some 17 years superbly edited this newsletter. It is a prime example of the kind of the selfless commitment I have witnessed in astronomical societies. It is a dedication born out of a common love, a mutual awe for the heavens.

These organizations are unique among the thousands a person can join in a lifetime. A mixture of fun, camaraderie, teamwork, achievement, scientific contribution. It was this combination that attracted me to join, as well as a deep-rooted childhood dream to understand the stars.

Producing a newsletter for the North Central Region is a responsibility not taken lightly. Suggestions and articles are always welcome! I will always try to create the most all-around useful newsletter for all the societies.

Maybe there's something else that has inspired me to do this project as well and I think I know what it is: A way of being thankful to a hobby that has given me many years of satisfaction--even near city lights. To play even a small role in the distribution of knowledge in this field, offers satisfaction.

In conclusion, I hope to carry on the tradition of this newsletter, nurture it and develop it according to the needs of the societies in this region.

WHAT'S NEXT?

By Lee Keith, Milwaukee Astronomical Society

Is it clear tonight? Looking outside, you see that the sky is a no moon milky gray (the best you can expect for in light polluted skies). You pack up the car to drive a half hour or more to your favorite observing site and set up your not-so-light telescope. Any planets up? Jupiter may be up, with its belts and four moons that orbit the planet like insects around a streetlight. You swing around to view the Lagoon Nebula and a few of your other favorite objects. All that took less than 30 minutes. What's next? Out of ideas? You can't go home yet!

I know of many observers with a similar dilemma. After they observe their favorite objects, they don't know what to do with themselves or their telescopes. Another problem is an observer who needs an incentive to a dark sky observing site, only to observe the same old (but nice!) objects. In these cases what is needed is an incentive, a goal, a REASON to observe. There are several activities that an observer could be involved in, such as the AAVSO which observes variable stars or the ALPO which watches planets, but the activities I wish to make you familar with are the Messier and Herschel Clubs.

Briefly, the Messier (mess-ee-ay') Club involves observing at least 70 of the brightest and most spectacular Deep Sky objects. The list was published in the late 18th century by the French comet hunter, Charles Messier, to keep other observers from mistaking them for comets. In all, Messier found 15 or 21 comets (depend-

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ing on what you define as "discovery") and was called the "ferret of comets." A contemporary of Messier, William Herschel observed many of Messier's objects with his vastly superior telescopes of his own making and found many of them to be resolved into stars. Messier's small, poorly made refractors only saw them as "nebulas without stars."

Herschel's success at seeing and resolving Messier's objects encouraged him to build even larger telescopes up to 48" aperture! Remember, this is 1789! With this and a smaller, but more useful 18" aperture telescope, he discovered 2500 NEW star clusters and nebulae, which became the nucleus of the NGC catalog, now used by astronomers worldwide! The Herschel list contains 400 of the best objects from his observations. Be warned that the Herschel objects are generally much fainter than the Messier objects. Where a 4-6" telescope will show all the Messier objects, 10 inch is about minimum, under fairly dark skies, to see the fainter Herschel objects. Also, the Herschel list tends to concentrate on small, faint galaxies.

After completion of each list, you will be awarded a nice certificate from your local astronomy organization and the Astronomical League acknowledging your hard earned accomplishment.

At this point you may be thinking to yourself: "So I observe a few objects and get a certificate, so what?" Well, if you think about it, the benefits of participating in an organized observing program go way beyond the actual observation of objects. In earning the Messier and Herschel Club certificates, you learn to be a more skilled, observant and knowledgable observer, instead of being just a "tourist." Please don't misunderstand me! There is nothing more pleasant, relaxing and enjoyable than to lay on a reclining chair with no more than a pair of binoculars or just my eyes and gawk at anything that I feel like or just stare up at the heavens! But there is nothing like observing the small and faint as well as the large and bright to give one a deeper appreciation and understanding, a "oneness" with the rest of creation.

One of the most obvious benefits of these observing programs is an acquired expertise of your telescope and assessories. The movements of an equatorial mount especially near the pole may not become second nature, but they will be more familiar. The use of setting circles, star hopping, polar alignment techniques collimation of your optics (if necessary) and alignment of your finder become part of you. One learns which eyepiece is best for which type of object and which nebular filter works best under which conditions. Reading the sometimes cluttered and confusing star atlas becomes easy. You will also find small ways to make your observing more pleasant and efficient, such as using a chair or stool to sit on while observing instead of hunching over your scope, teetering on the brink of disaster lest you lose your balance. Or, using a small table to hold charts and books with a "gooseneck" or flexible flashlight clipped to the edge so BOTH your hands are free to turn pages, write, or rub together for warmth. It beats butting everything on the soaking wet ground. Need I go on?

To find any object among the multitude of stars visible, you must be able to point your telescope to the precise (or at least reasonably close) position of the object. Can you pick a dim star, or better yet, an empty point in the sky and point your scope at it so the star or point is in your finder on the first or second try? This sounds simple, but like walking, you must be able to do to it to get anywhere! If you can't, don't worry--all you need is a little practice. Once you point the scope, how can you be sure that you're in the right place? By knowing the constellations, of course! This may seem obvious and trivial, but it is of paramount importance. So you think you know the constellations? Have you ever heard of a constellation by the name of Lacerta? Can you say what it represents, where it is in the sky, and sketch its general shape? Earning a Herschel Certificate will teach you the constellations in this detail.

Do you remember the first time you saw the Orion Nebula? Looked like a fuzzy blob, didn't it? If you were to look at it now, you would probably see a little more detail than that, wouldn't you? Why is that? Did more detail appear in the nebula since the first time you saw it? Like any skill, one gets better with practice. As you look closer at an object, you will learn to "see" fainter parts of a nebula, the spiral arms and dark lanes of galaxies or faint planetary nebulae. You can actually see more by using various "tricks of the trade" such as averted vision, where you look to the side of an object to see dimmer parts, or by "sweeping", where you slowly sweep across the suspected position of a dim object and your eye will catch the little bugger trying to sneak by! You may see others as your observing skills develop with practice. LOTS of practice! Ask any planetary observer what training and practice can do in seeing fleeting planetary detail.

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Another benefit of the Messier and Herschel Clubs is that you will learn how to record an observation in a meaningful way. Then at a later date, you can compare it to a later observation by yourself or by another person. Using these you can guage your observing skills and, hopefully, see a marked improvement with time. You can also compare these observations with ones made under different conditions or with different equipment. A fun thing I like to do is see what the smallest aperture I can use to see certain details in objects, such as the galactic arms of M51 or the dark lanes of M8 and M20, the Lagoon and Trifid nebulas. These will tax your observing skills but teach you not just to look, but to SEE.

In recording an observation, you must make an assessment of the current conditions. Ranking the steadiness of the air (seeing) and the clarity of the atmosphere (transparency) as well as the date, time, telescope used, object name or number, along with a short description or impression of the object are what you need to record. This may sound like a lot of trouble for each object but much of it will be the same for each observing session.

One of the major reasons I like to observe is probably shared by all observers, that is, the sheer joy of discovery and accomplishment that goes along with each new object. What's nice about the observing clubs is that you don't have to hunt for or decide what to observe next and the objects you see are generally the best of their class, so you get an excellent survey of each type. This makes observing as easy and pleasurable as it can get, except for the mosquitos!

With all this talk about learning the sky, you may not think that the observer learns much about him or herself, but that's not true! The goal of observing each object is a great incentive to find objects that you may, at first, feel are too small or dim to see and to look for them under more adverse conditions than you may otherwise put up with. Distance to a site, heat, cold, mosquitos, park rangers, the moon or just plain laziness may conspire to keep you from getting use out of that expensive piece of optical perfection in your closet. In doing so, you push yourself to the limits, so to speak, as an observer. While some may not accept this challenge, the ones who do will gain perseverance, endurance and skills they never had before. As a result, they will not only by better observers, but better people. Because traits and skills learned in one area can be used in other places in life.

Lastly, as you progress through each list and the sky becomes less mysterious, you will be able to call the stars your friends as I do. No matter where you are, under bright city lights or dark country skies, with or without optical aid, those friendly eternal beacons will always be there, smiling down on you with light that has traveled decades, centuries or even

ANNOUNCEMENTS:

The Chicago Astronomical Society is pleased to announce that it will again host the eighth annual Astrofest from Friday, September 18th through Sunday, September 20th, 1987.

Astrofest will be held at Camp Shaw-Waw-Nas-See, a 4-H Camp about 60 miles of Chicago. For further information, write to:

Astrofest
Post Office Box 596-N
Tinley Park, IL 60477

Chairman: James Hansley (312) 764-5131.
Registrar: John Phelps

PUNS, QUIPS AND QUOTES:

"Remember when atmospheric contaminants were romantically called stardust?"
---Lane Olinghouse

"Everyone is a genius once a year; a real genius has his original ideas closer together." ---G. C. Lichtenberg (1742-1799)

"Millions say the apple fell but Newton was the one to ask why." ---Bernard M. Baruch

"The fellow who never makes a mistake takes his orders from one who does."
---Herbert Prochnow

You are cordially invited to participate in

UNIVERSE '87

July 11-16, 1987 **Pomona College** **Claremont, California**

Who Are the Sponsors?

The meeting is being put on by the two umbrella groups of amateur astronomy clubs in the U.S., the Astronomical League and the Western Amateur Astronomers, with the cooperation of the Astronomical Society of the Pacific. Also joining in will be the Association of Lunar and Planetary Observers, the International Amateur-Professional Photoelectric Photometry Group, and the International Occultation Timing Association. The nontechnical lectures at the meeting are being cosponsored by the Planetary Society. (The conference will take place at the same time as the 99th Annual Scientific Meeting of the Astronomical Society of the Pacific.)

Why Should You Attend?

The meeting is for amateur astronomers at all levels, from experienced observers to those just beginning to be interested in astronomy. Sessions will range from completely nontechnical talks by noted amateur and professional astronomers to hands-on seminars on specific techniques like timing occultations and observing the giant planets. Participants can learn more about what other amateurs are doing, meet people with like interests, exhibit or view astrophotographs by amateurs, hear about new developments in astronomical research, and tour some of the finest astronomical facilities in the country.

The schedule also includes two awards banquets, a door-prize drawing, an evening reception where professional and amateur astronomers will mingle, a session on the history of astronomy, and lots of time for social activities and informal star parties. The campus observatory will be open for those who would like to see or use the telescopes.

What Tours Are Scheduled?

There will be bus tours to Palomar Observatory, the Jet Propulsion Lab, NASA's Goldstone Tracking Station (with its huge radio dish), the Table Mountain Observatory, Big Bear Solar Observatory, and Mount Wilson Observatory. In addition, discount coupons will be available for those who wish to tour Disneyland, Universal Studios, and Knotts Berry Farm on their own.

Who Are Some of the Speakers?

The meeting schedule includes invited talks by Leif Robinson (the editor of *Sky & Telescope*), Richard Berry (the editor of *Astronomy*), Ronald Oriti on meteorite hunting, John Mosley on computers for amateurs, Clinton Ford on variable star observing, Ben Mayer on capturing public interest in astronomy, John Sanford on astrophotography, and many others.

Among the speakers on new developments in astronomy, Kip Thorne of Caltech will talk about "Black Holes, White Holes, Worm Holes, and Tunnels Through Hyperspace", Frank Drake (U. of California) will chronicle the history of our search for extra-terrestrial intelligence, Steve Edberg (JPL) will discuss what we learned about Halley's Comet, and Allan Sandage (Johns Hopkins) will talk about his work on the expansion of the universe.

There will also be exhibits of astronomical materials, including telescopes and other instruments, books and magazines, computer software, audio-visual materials and more.

For educators, the meeting also includes a two-day credit workshop on teaching astronomy in grades 3-12.

Will This Cost Me an Arm and a Leg?

We have tried to keep costs reasonable so that everyone interested in astronomy can participate. Inexpensive room and board have been arranged in the dormitories on the campus of Pomona College, as well as substantial discounts at Griswold's Inn, a nearby full-service hotel. American Airlines and AirCal are offering discounts on air fare for participants, and Avis is giving us special rates on car rentals.

How Can I Get More Information?

A detailed registration packet and form can be obtained by writing to the address below. We'd appreciate it if you can enclose two first class stamps with your request to help the nonprofit organizations involved defray the cost of postage. Send your name and address to:

Astronomical Society of the Pacific
Meeting Info Dept.
1290 24th Ave.
San Francisco, CA 94122

A Joint Meeting of Several National Astronomy Societies

NCRAL in RACINE

---Jim Fox

More than 150 amateur astronomers attended the 1987 convention of the North Central Region which was held April 25th in Racine, Wisconsin. The Racine Astronomical Society and general Chairman Ritchie Falk received a well deserved round of applause at the meeting's conclusion.

Even the weather cooperated, at least on Friday night, as early arrivals gathered at the society's Modine-Benstead Observatory. Besides an opportunity to renew old friendships, the evening allowed this reporter to view Mars (disappointing, now), M-51 (through the 16" cassegrain) and the M-65/66 pair (through the 14" Celestron). A swap meet in an auxilliary building allowed attendees to exchange those no-longer-used items for more usable alternates (including cash!)

The meeting proper began on Saturday morning with a keynote address by Richard Berry, editor of ***Astronomy*** magazine. Discussing the convention theme, "Observing in the Midwest," Berry compared our area to other parts of the country. In general, the midwest compares well in many areas. Grazing occultations are especially favorable with our flat expanse and straight road network for reference positions. Other activities away from the horizon are also favorable: variable stars and astrophotography, for example. We fare less well for activities near the horizon (e.g., comet hunting) and the number of clear nights per year. Even this latter "problem" could be considered a plus by equipment builders since the cloudy nights offer more opportunity for working on equipment indoors!

The general paper sessions included nine scheduled papers plus two additional ones since the smoothly run meeting actually held to its time-line. Topics ranged from variable stars to club activities to teaching to the Challenger explosion. In all, a rather diverse group with something for almost everyone.

Scheduled breaks introduced attendees to a local Danish confection known as "kringle." (From the taste, I assume that is Danish for "I've died and gone to heaven"!) The banquet was the more traditional affair at the Sheraton hotel next to the high school where the day's activities were held. The banquet speaker was Dr. Leonard Parker, Professor of Physics at University of Wisconsin-Milwaukee. His talk, "Quantum Effects in the Early Universe," discussed the role of unification of the four fundamental forces in the generation of the initial matter and energy distribution following the "Big Bang."

Regional Chairman Frank Roldan called the business meeting to order at 1:30pm. Secretary-Treasurer Richard Wend (Racine A.S.) announced that the Region is fiscally sound. 27 of the 35 societies in the Region answered the roll call.

The Marquette (Michigan) Astronomical Society will host the 1988 convention to celebrate their 50th anniversary. It will be held on May 14th at the campus of Northern Michigan University. One or two buses may be organized from the Chicago/Milwaukee area if there is sufficient interest.

The Rockford Astronomy Club invited the Region to hold its 1989 convention in Rockford.

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Dan Koehler (Milwaukee A.S.) was elected the new regional Chairman. Marion Bachtell (S.E. Iowa A.C.) defeated Paul Castle (Popular A.C.) to win re-election as Vice Chairman. Richard Wendt was re-elected to Secretary-Treasurer. Larry Jahn (Naperville A.C.) has another year to serve in his term as Regional Representative to the League Council.

Retiring ***NORTHERN LIGHTS*** editor Jim Fox introduced the new editor Ray Wendt (Milwaukee A.S.). A contingency fund was established to ensure financial resources while new printers are established and subscription rates adjusted, if necessary. All clubs were urged to continue their support of the newsletter under its new editor.

Astronomy Day A Big Bang for N.S.A.

It was a beautiful clear skied day for many of the region's astronomical groups last Astronomy Day. The Northwest Suburban Astronomers of Hoffman Estates, IL, seemed to have one of the busiest itineraries.

There were talks and exhibits galore, much to the delight of the 400 people who attended. Subjects ranging from general overview talks titled as, "Our Universe" and "Telescopes of the World" by Clark Harbourt, to more narrowed presentations with titles such as, "Theory of Planetary Motion" and "Torchlights of the Spirits--The Aurorae" given by Bob Karas and John Conneely, respectively.

Exhibits demonstrating use of the home computer as a home planetarium and tool for various astronomical programs and other informative audio-visual exhibits made for an exciting day for all ages.

Outside of the school where the shows were presented, eight telescopes were set up including a C-14 (as well as the school C-14 located in the school observatory).

All in all it was a great success for this club as well as the many in our region. More people are aware of what our clubs are all about and how exciting it is to become involved in astronomy thanks to Astronomy Day.

Some Regional Society Addresses for Newsletters and Information

Amateur Astronomy Association of Aurora
c/o Kenneth Timmons
69 Sheffield Rd.
Montgomery, IL 60538

Argonne Astronomy Club
c/o Homer DaBoll
6N106 White Oak Lane
St. Charles, IL 60174

Chicago Astronomical Society
c/o Michael Barrett
5735 W. Pensacola Ave.
Chicago, IL 60634-1725

Fox Valley Sky Watchers
c/o Clark Harbourt
1671 N. Island View Ct.
Hoffman Estates, IL 60195

Marquette Astronomical Society
c/o Stephen Peters
114 E. Prospect St.
Marquette, MI 49855

Milwaukee Astronomical Society
c/o LeRoy Simandl
4201 W. Highland Blvd.
Milwaukee, WI 53208

Racine Astronomy Society
c/o Ron Jones
4424 Wood Road
Racine, WI 53403

3M Club Astronomical Society
c/o Jim Fox
14601 55th St. South
Afton, MN 55001

SPECIAL THANKS TO:

JIM FOX
CLARK HARBOURT
LEE KEITH
LEROY SIMANDL

DEADLINE FOR NEXT ISSUE IN SEPTEMBER:

SEPTEMBER 1, 1987