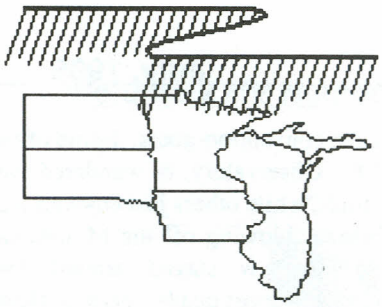


NORTHERN LIGHTS

NORTH CENTRAL REGION

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Roaming the Region

by Janet Stevens

I have received information from the Astronomical Society of the Pacific that they will be holding "Universe '97" in our region, specifically at the Chicago Hilton. Their meetings usually take place in June. We will let you know when we have more information.

Yerkes Observatory will be holding their annual summer C. A. R. A. (Center for Astrophysical Research in Antarctica) star party Sunday evening, August 6. CARA's organizers are looking for volunteers to teach high school age students enrolled in the program about observational astronomy. If you can attend, bring your telescope to Yerkes, in Williams Bay, WI. Viewing hours will last from about 9:00 p.m. to 11:00 p.m.

For more information, contact CARA Program Director, Jim Sweitzer (University of Chicago) at 312-702-7783, or Rich Dreiser at Yerkes at 414-245-5556. Go/no-go information will be available Sunday, August 6, at the Yerkes phone number after 4:00 p.m.

The Sheboygan Astronomical Society won an Honorary Mention Award for Astronomy Day. Though they are a small society of only 18 members, they did an outstanding job with about 40 attendees. Congratulations for a job well done!

The Marquette Astronomical Society's program for their May meeting was "A Beginners Guide to Amateur Astronomy". They devoted the April/May issue of their newsletter, the *Star Times*, entirely to this subject, except for a society news insert. Marquette A.S. members Mike Beauchamp and Brian Halbrook wrote this excellent introduction to our passion.

The Minnesota Astronomical Society is putting together a list of E-mail addresses to provide a directory for their members. The Northeast Wisconsin Stargazers (NEWSTAR) are providing E-mail information as part of their current membership list. NEWSTAR can now be reached through their own home page on the World Wide Web. Monty Montgomery is the "Keeper of the Page" and would like to know what you think. NEWSTAR's home page can be reached at: http://athenet.net/~monty.

While on the subject of E-mail, don't forget *Northern Lights* can be reached via E-mail at 73357.1572@compuserve.com. We hope to hear from you soon (especially if you have an article for us!).

A Light Pollution Conference at Milwaukee (WI) in 1996.

by Daniel Koehler
Milwaukee A.S.

A one-day conference devoted specifically to the problem of excessive outdoor lighting and light pollution will be held in the metropolitan Milwaukee area sometime during the spring of 1996. This meeting will be sponsored jointly by the International Dark-Sky Association (IDA), Kalmbach Publishing, publishers of Astronomy Magazine, and the North Central Region of the Astronomical League (NCRAL). The latter two organizations will act as major underwriters. Several members of the Milwaukee Astronomical Society are acting as organizers. At the 1995 Business Meeting of the NCRAL held in Moorhead, MN, members voted to provide up to $1,000 to defray costs associated with the meeting. Kalmbach Publishing has graciously offered to print and mail invitations to potential participants and guests, provide for all registration materials and advertisement space in *Astronomy*, and will host a reception at its headquarters in Waukesha, WI the weekend of the conference. It is anticipated that a modest $5 to $10 registration fee will also be assessed each participant for refreshments at the conference.

Amateur astronomers from as many as 16 states will be invited to participate in the conference and learn about outdoor lighting awareness issues. Dr. Dave Crawford and Dr. Tim Hunter, Executive

Director and President of IDA, respectively, have each said they plan to attend. Members and officials of the Milwaukee chapter of the Illuminating Engineering Society, Wisconsin Electric Power Co., Milwaukee-based architectural, lighting design, and lighting manufacturing firms, and community planning commissions will also be invited to join the meeting. State Rep. Jim Baumgart, author of Wisconsin's pending light pollution legislation is also going to be invited to attend.

As of early July a firm date for the conference had not yet been set. It is anticipated that an announcement will be made at Astrofest in September. Watch for conference updates in the November and February issues of the *Reflector* newsletter, or the October and January issues of *Northern Lights*. We are currently evaluating dates in late March, early April, or early May. To be placed on the mailing list for information, send a note to me at the "official" conference address below, phone, or contact me via CompuServe E-mail.

I would also like to hear from anyone with suggestions concerning the potential conference program, whom to invite, etc. It is hoped that the Midwest light pollution conference can become an annual or biannual event.

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The 1995 N.C.R.A.L. Convention at Fargo (ND) - Moorhead (MN)

by Bert Stevens

Flying from Chicago's O'Hare Airport to the Hector International Airport of Fargo, ND is like traveling from one world to another. Hector's two gates amid the farm fields of North Dakota contrast vividly with O'Hare's dozens of gates surrounded by the busling population of cosmopolitan Chicago

A three-mile drive got us to the official convention hotel near downtown Fargo. After registering and unpacking, we headed out to the Friday night gathering at the Moorhead State Regional Science Center. Fargo-Moorhead is located in the heart of the Red River Valley on the North Dakota-Minnesota border along the Burlington Northern Railroad mainline.

Built near the Buffalo River State Park, the Moorhead State Regional Science Center has nature trails and exhibits, but most interesting was the Paul P. Feder Observatory. This two-story observatory contains a 16-inch DFM computer-controlled Cassegrain telescope. Attached to the telescope is a Starlight-One liquid-cooled CCD system. This telescope is the second largest professional instrument in Minnesota and is being used primarily for minor planet photometry.

The first order of business was dinner. The Fargo-Moorhead Astronomy Club hosted an excellent BBQ at the Science Center. Dinner included brats, sausages, hot dogs and chips. The meal gave everyone a chance to shake off the dust of the road and catch up with old friends. The F.M.A.C. also had on display several telescopes, including a Meade LX-200 and the Club's 12½-inch Cave Astrola Newtonian Reflector. After everyone had eaten his or her fill, we were treated to a presentation of a series of images taken through the DFM/Starlight-One. These included a series of Messier and NGC objects, then Jupiter and its impact features and, finally, some of the minor planets that are being studied at the Observatory.

A sundog in the scattered cirrus clouds blowing off a distant thunderstorm followed by a lovely sunset, made for a pleasant backdrop to the conversations among the convention-goers. Some of us toured the Observatory, or wandered the nature trails, while others just enjoyed the cool breezes blowing off the Minnesota prairie. A few stayed around for observing, but most headed back to their quarters for the evening.

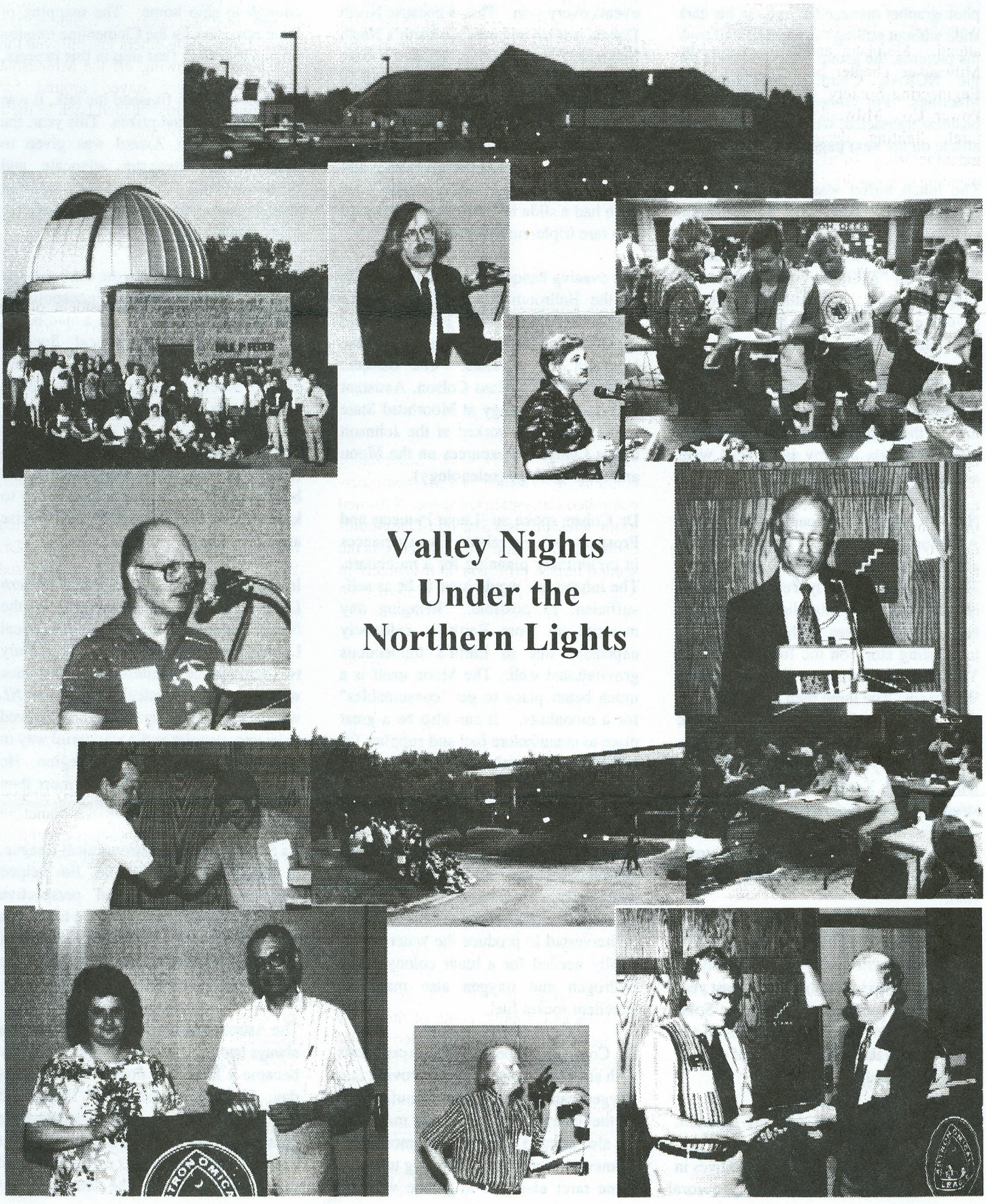
The NCRAL convention itself was held at the Comstock Memorial Union of Moorhead State University (M.S.U.). Those who had not received their registration packets at the Science Center got them at the Registration Desk. Convention Chair and President of the Fargo-Moorhead Astronomy Club Jon DeVries welcomed everyone to the Forty-ninth Annual Convention of the North Central Region of the Astronomical League. He then introduced Astronomical League President Barry Beaman, who joined Jon in welcoming everyone and made a few remarks on League activities.

Speaker Coordinator David Weinrich introduced the Keynote Speaker, Dr. W. E. Worman of M.S.U. who discussed "CCD Photometry of Asteroids at the Paul Feder Observatory". Dr. Worman showed slides of the minor planets he had observed. The work concentrated on determining rotational periods for minor planets. This required taking a series of images of the minor planet throughout a night or on successive nights.

Since minor planets are irregularly shaped, the surface area of the minor planet we can see will vary as it rotates around its axis. This will make the brightness of the minor planet vary as seen from Earth. By plotting the observed magnitude of the minor planet over several hours the period of rotation can be determined. The DFM telescope took the necessary observations to obtain the periods of a number of minor planets. More observations are planned on these and other minor planets at the Feder Observatory.

After Dr. Worman concluded, snacks and drinks were available until everyone marched outside for the famous "group picture" performance. After the

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Valley Nights Under the Northern Lights

photographer managed to pull out his dark slide without pulling out the film and took his pictures, the group returned inside for the NCRAL Council and Business Meetings. For complete details on the business transacted, see the accompanying article on the next page.

The lunch buffet was held in near the meeting room. Afterward, the afternoon papers session began with a paper by Mr. J.B. Anderson (Minnesota Astronomical Society) on "A Strategy for Discovering Comets". Mr. Anderson interviewed several comet discoverers and concluded that comet searching is an obsession that must be conducted to the exclusion of everything else. He quoted Howard Brewington as saying that he has not looked through a telescope for fun since 1988: "Comets are my life, but I want astronomy to be fun again."

Next Mr. Daniel L. Koehler (Milwaukee Astronomical Society) enlightened us about "Three Men and an Observatory - The Founding and Early Years of Yerkes". Mr. Koehler who moonlights at Yerkes has access to Yerkes' archive and wove a fascinating story on the founding of the Yerkes Observatory at William's Bay, Wisconsin. The three men involved were William Rainey Harper, President of the University of Chicago in the 1890s, George Ellery Hale, who was the first Director of Yerkes Observatory, and streetcar magnate Charles Yerkes. Dan described initial meetings with Yerkes, the planning and building of the Observatory, first light, and the collapse of the movable floor.

After a break, John Leppert, organizer of the North Prairie Star Fest, described his last-minute trip to South America last year to view the southern skies and the Solar Eclipse. John displayed his slides of the landscapes, southern skies, and of course, the eclipse itself.

The final speaker was Mr. Jay Brausch, showing his slides of "Aurora and Noctilucent Clouds". Mr. Brausch lives in North Dakota and enjoys many auroral events every year. This is because North Dakota is relatively near the Earth's North Magnetic Pole which is in Hudson's Bay, Canada. His pictures have appeared in *Astronomy* magazine. Mr. Brausch related his observations of the evolution of an auroral event from the first vague auroral cloud to the wild riots of flickering and rapidly-shifting rays and curtains. He even had a slide taken from his backyard of a rare triple-curtain aurora.

The evening banquet was held in a section of the Ballroom of the Union. The excellent meal was served buffet style and included a "Valley Nights under the Northern Lights" cake. The Banquet Speaker was Dr. Russ Colson, Assistant Professor of Geology at Moorhead State University, who worked at the Johnson Space Center on resources on the Moon and lunar geology (selenology).

Dr. Colson spoke on "Lunar Pioneers and Prospectors". He related his experiences in preliminary planning for a moonbase. The inhabitants would have to be as self-sufficient as possible. Bringing any material up from Earth is extremely expensive due to Earth's tremendous gravitational well. The Moon itself is a much better place to get "consumables" for a moonbase. It can also be a great place to manufacture fuel and supplies for interplanetary missions.

The lunar rock is a rich source of oxygen, but it must be separated from the other elements by the application of heat and/or electricity, both of which can be abundantly provided by the Sun. Hydrogen ordinally from the Sun can also be harvested to produce the water that is vitally needed for a lunar colony. The hydrogen and oxygen also make an excellent rocket fuel.

Dr. Colson described his own experiments with simulated lunar material proving that oxygen can be practically manufactured on the lunar surface from lunar materials. He also pointed out that while most lunar elements are not worth shipping to Earth, some rarer elements might be valuable enough to ship home. The mapping of lunar resources by the Clementine mission was an excellent first step in this process,

After Dr. Colson finished his talk, it was time for awards and prizes. This year, the NCRAL Region Award was given to longtime AL supporter, advocate, and officer, James Fox. Jim has ben active in amateur astronomy and more precisely for many, many years.

Jim started his service to the astronomical community locally in his Minneapolis-St. Paul hometown. He became a member of the Minnesota Astronomical Society. Later, he founded the 3M Astronomy Club, where he served as President, among other duties.

As Chairman of the North Central Region from 1973 to 1975, Jim applied his business skills and organizational savvy to keep Regional Business Meetings precise and to the point.

In September 1971, Jim founded *Northern Lights*, the Regional Newsletter of the North Central Region of the Astronomical League that you hold in your hands. Only two regional newsletters are in existence within the Astronomical League, and *NL* was the first. *Northern Lights* has proved to be very popular and a wonderful way to disseminate the news of our Region. He retired as Editor in 1987, after more than fifteen years on the job!

As Secretary of the Astronomical League, in the 1975-77 time-frame, Jim helped heal the personality and perspective problems on the Council of the time. His willingness to listen to different points of view without alienating anyone served the Astronomical League well.

The Astronomical League Trust Fund has always had a friend in Jim, and in 1988 he became a Trustee, a post he holds to this day. He has encouraged all Trustees to take active roles in working to increase the balance of the ALTF, rather than just acting as care takers. His early efforts laid the groundwork for the annual Silent

Auction that has had good success in reaching beyond League members for support of the Fund.

As President of the Astronomical League from 1990 to 1994, Jim served most ably and adeptly, conducting the affairs of the Astronomical League in an extremely forthright manner. His professional yet approachable demeanor has been very much appreciated by the members the League's governing Council. His leadership example has helped other League authorities lead effectively. Jim's thorough knowledge of League activities and history has been a great asset to the Council and in his handling of problems.

Not limited to the League, Jim is a member of the American Association of Variable Star Observers, the International Occultation Timing Association, and the Astronomical Society of the Pacific. When he has the time, he enjoys variable star observing and recording and has been an active occultation observer. Jim is also active as an amateur radio operator and bird watcher which are closely related scientific and nature interests to that of astronomy. Jim richly deserved this Award, and we all applaud and thank him for his unselfish contributions to the Astronomical League and amateur astronomy.

Next, Fargo-Moorhead President Jon DeVries presented the awards for the best astrophotos. Three astrophotos received awards. Dan Koehler received an award for this photograph of the 1994 total solar eclipse. Jay Brausch received an award for his photo of the Aurora and Full Moon. The final award went to John Leppert for his photo of Southern Hemisphere Stars and South American Morning Twilight.

Jon then announced the winners of the Trivia contest assembled by Fargo-Moorhead member James Timian. Katrina Anderson (Neville Public Museum Astronomical Soc) had ten right to win the first prize. Dan Joyce (Chicago Astronomical Society) and Jim Fox (Minnesota Astronomical Society) tied for second place with nine right each.

Jon then adjourned the convention. It was a most excellent time was had by all! The Fargo-Moorhead Astronomy Club is to be congratulated on one of the best conventions we have ever had!

The 1995 NCRAL Business Meeting

by Bert Stevens

The Regional Business meeting was called to order at 10:44 a.m. by Chairman Paul Castle. The first order of business was the Roll Call of the Region. Twenty of the 32 member Societies were represented at the meeting, enough to conduct business.

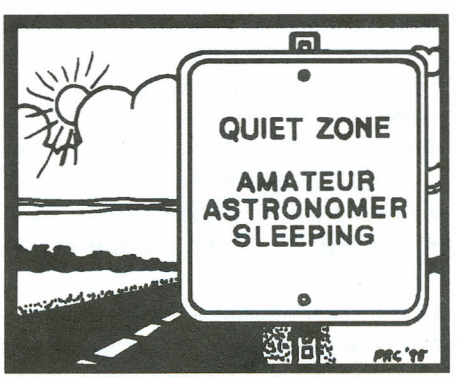
Secretary-Treasurer Deena Joslin then read the minutes from last year's Business Meeting. Ms. Joslin then presented the Treasurer's Report. Our current treasury now stands at $3,980.60. Expenditures included office supplies, copying, and the Regional Award. The thousand dollars lent to the Astronomical League Trust Fund was also returned to the treasury after last year's vote not to renew our loan to the Trust Fund.

Bert Stevens, co-editor of *Northern Lights* then reported on the status of that publication. *Northern Lights*, is currently in good financial health. Postage rates have just increased, and paper costs are up 30 percent, increasing the cost of publication. This will probably mean an increase in the subscription price at both the individual and group level. This increase will not come until after it is voted on at the 1996 Regional Business Meeting.

Mr. Stevens said that the two things *Northern Lights* really needs are the same as last year. The first is to get newsletters from more of our regional societies for co-editor Janet Stevens' column *Roaming the Region.* Without newsletters from the regional societies, this column would not exist and a major purpose for *Northern Lights*' existence would be lost. The other thing *Northern Lights* needs is for more societies to subscribe as groups. The group subscription not only helps keep *Northern Lights* alive, but more importantly, it brings each society member news and original articles from throughout the North Central Region.

Carol Beaman, Rockford Amateur Astronomers, then reported on next year's Regional Convention, which will be held at Rockford College, Rockford, Illinois. It will be held in conjunction with the National convention (ALCon '96). Field trips will include a visit to the Rockford Amateur Astronomers' observatory with their new solar telescope and a 10-inch Roland Christen apochromatic refractor. Other tours include Yerkes Observatory, the Rockford Science Discovery Center and the Time Museum. The dates are July 24-28, 1996, so mark your calendar for "Astronomy Around the Clock".

The first order of old business was Janet Stevens' report on what to do with the NCRAL's excess funds. Last year Chairman Marion Bachtell appointed Janet Stevens to head a committee to determine what (if anything) should be done with the excess funds. The suggestions put forth at last year's business meeting included: Lending money to other regions who need it; Lend money the AL Trust Fund (or give them interest money that would accrue from a $1,000 loan); Donate money for the AL's Officer Training Manual's printing costs; and Donate some money to the International Dark-Sky



Courtesy of and drawn by Paul Castle.

Association (IDA).

Ms. Stevens reported that she had sent a letter out earlier this year to all the Regional Societies asking what to do with these funds. She got three responses. One member of the Skokie Valley Astronomers suggested that we "give $500 to the International Dark-Sky Association, and invest the rest. All other members agreed to leave the decision to the wisdom of our elected and appointed AL officials." The Central Iowa Astronomers suggested that we "use it to expand the selections of films in the library". This last suggestion is covered by the budget of the National Astronomical League and Ms. Stevens recommended it should not be funded by our Region.

Bert Stevens suggested that up to $1,500 of the funds be used to mail out the *Reflector* with a request to the Post Office to provide address corrections for those whose address is incorrect. Since the *Reflector* is mailed at a special nonprofit rate that does not provide for the return of undeliverable mail. A brief discussion followed, but since Committee Chair Janet Stevens did not recommend this option, it was dropped.

Dan Koehler (Milwaukee A.S.) suggested that the excess funds be used to start a Regional Dark Sky Convention. He stated that it would be held in the Milwaukee (WI) area. Kalmbach Publishing would cosponsor it and help defray some of the costs. Bert Stevens moved that the Region hold a Regional Dark Sky Convention and allocate up to $1,000 in start-up costs. This convention would be held under the same rules as any Regional Convention. This means that the convention would attempt to be self-sustaining, but the Region would provide start-up funding and would receive that money back along with any profit the convention may show. A vote was taken and the motion passed.

Under new business, Bert Stevens, *Northern Lights*, moved that the Region reimburse *Northern Lights* for the gratis subscriptions to Regional member societies that do not currently subscribe to *Northern Lights*. These free subscriptions were started last year in a directive from Chairman Castle. Mr. Stevens said that this would cost about thirty dollars per year.

Discussion moved rapidly through the attendees. Jim Fox, *Northern Lights* founder and former editor, moved to amend the motion to add "in perpetuity" to the amendment. Mr. Stevens said that this wording would give the nonpaying societies, and any new societies a permanent subscription. George McCourt (Neville Public Museum A.S.) stated that he felt that free subscriptions would be unfair to those societies who were paying for their subscriptions now. Another member suggested that the single issue be duplicated by each Society and distributed to its members. Mr. Stevens disagreed since *Northern Lights* is self-sustaining and such an arrangement would destroy the publication's cash-flow. Janet Stevens, *Northern Lights*, was not in favor of the motion as amendment because she felt it would reduce the number of paid subscriptions in the long run. After more discussion, a vote was taken and the motion was defeated. Chairman Castle asked Mr. Stevens to rewrite the motion to meet with members' objections and reintroduce the motion next year.

Don Klempt, President of the Racine Astronomical Society, then offered to hold the 1997 Regional Convention at Racine, Wisconsin. Racine's Modine-Benstead Observatory sports a 16-inch f/20 Cassegrain reflector on a massive mount and a 14-inch Schmidt-Cassegrain in a separate dome. A 12-inch Newtonian and a 14-inch Celestron are located in a roll-off roof building. There are also concrete pads for portable 'scopes. This Observatory has something for everyone!

Dan Joyce (Chicago Astronomical Society) mentioned that the Lindheimer Astronomical Research Center of Northwestern University (Evanston, IL) is being dismantled. Northwestern is making available the 16-inch and 40-inch Bolar and Chivens telescopes and their domes to whoever presents the best proposal for their use. They will be removed on August 1, 1995. Northwestern is not asking for bids, but rather for proposals for their future use. Winners must have a flatbed truck ready on August 1 to haul the telescope away.

Chairman Paul Castle mentioned that he had mailed out a letter requesting updates to the Regional Directory. The Regional Directory lists each society in the Region and contains information about each society, where they meet, and where they observe. Chairman Castle asked that any society who wanted to update its entry contact him as soon as possible. After he has received all the updates, he will modify the directory and provide a copy of the revised Directory to each Regional member society.

Nominating Committee Chairman Frank Roldan the took the floor to conduct the election of officers for the coming year. Paul Castle (Popular A.C.) ran unopposed for the office of Chairman and was elected to another one-year term. Sharon Stauffer (Rockford A. A.) ran unopposed for the position of Vice-Chairman and was elected unanimously. Stephen Peters (Marquette A.S.) ran unopposed for Secretary-Treasurer, replacing the current Secretary-Treasurer Deena Joslin, who decided not to run again. Marion Bachtell (Southeastern Iowa A.C.) is in the second year of her three-year term as Regional Representative.

There being no further business, the 1995 Regional Business Meeting was adjourned by unanimous vote at 11:54 a.m. Everyone headed out the door for lunch.

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Deadline for the next issue is August 31, 1995. We need you to write an astronomical article for us. Start writing it today!