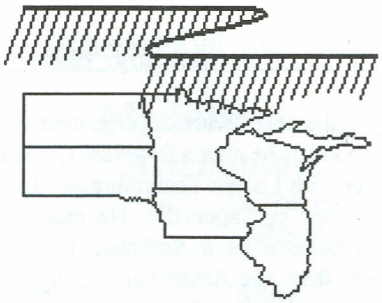


NORTHERN LIGHTS

ASTRONOMICAL LEAGUE
NORTH CENTRAL REGION

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Farewell.

by Bert and Janet Stevens



This is the last issue of *Northern Lights* that we will be producing. Richard Klappal of Aurora, IL, has agreed to take over the editing and publishing *Northern Lights* with the April 1998 issue.

We have really enjoyed putting out *Northern Lights*. Many fine authors have contributed to the success of this newsletter. Their articles and photographs have helped maintain the high quality that has been a tradition in the North Central Region. We are grateful to all of you who have ever contributed in any way to *Northern Lights*.

Most importantly however, are you, the readers. It is your feedback and encouragement that has kept us going during those times that we were trying to balance *Northern Lights* with our other activities. We know that Rich will continue to find you interesting articles.

While we are moving onto other aspects of amateur astronomy, we want to issue a call-to-arms to all amateurs. Each one of us needs to take a small part in promoting amateur astronomy. In today's world, with slick advertising campaigns vying for the public's attention, it is the things that happen one-on-one that capture our attention. You need to be a part of those "ones".

Both adults and children need to be introduced to amateur astronomy. They know about professional astronomy and space exploration from the media. But you must introduce them to the idea that the universe is right outside their door. Small telescopes and binoculars can open up the cosmos to them. It is up to you to enlighten those around you about amateur astronomy.

We hope you will continue to support *Northern Lights* and the new editor as he takes the reins of editorship. We look forward to seeing many of you at the Regional and National conventions, as well as local astronomy club meetings. We wish you clear and steady skies!

1998 N.C.R.A.L. Convention Scheduled for May 8-9, 1998 near Des Moines, Iowa.

This year's N.C.R.A.L. Convention will be held at the Adventureland Inn in Altoona, Iowa, just east of downtown Des Moines next to the Prairie Meadows Race Track and Casino. Hosted by The Des Moines Astronomical Society, Inc., the event is scheduled to start Friday, May 8 and conclude Saturday, May 9, well before Mother's Day on Sunday. There will be something for everyone at this year's event.

Friday night starts with a Star Party at the Ashton Observatory. The Ashton Observatory is a double-domed facility housing a 16" f/4.5 Newtonian and a 10" SCT. There is a classroom, and several telescope pads available for outdoor viewing. Plenty of time will be set aside for observing.

Saturday will feature talks by both amateur and professional astronomers. The schedule includes Dr. Louis Frank, University of Iowa, speaking on "The Small Comet Theory". Also presenting papers will be Dr. LeAnn Wilson, Iowa State University, and Dr. Tony Marsten, Drake University.

Saturday night there will be a Star Party at Drake observatory. This Observatory houses an early 20th century 9.5-inch refracting telescope.

Bring a telescope for observing on either night. Join us for two nights and a day of fun, food, and cosmic fellowship!! For more information, please visit the D.M.A.S. website at:
www.sciowa.org/~dmas/ncral.html.

Roaming the Region

by Janet Stevens



First, we would like to welcome two new societies to the North Central Region of the Astronomical League. The first is the Astronomical Association of Southern Illinois in Carbondale, Illinois. The second is the Dakota Astronomical Society in Bismark, North Dakota. Welcome aboard!

The Chicago Astronomical Society is creating a temporary committee to search for a site with very dark skies, with either a large, flat, open field with an unobstructed view or several smaller fields. They would also like dining facilities, restrooms, and showers. The site should be located in the Great Lakes area, preferably in Illinois. This search is being held due to the worsening light-pollution at Camp Shaw-waw-nas-see near Kankakee, where they host Astrofest. There is a proposal to stage an annual week-long star party at the new site during the spring. This will **not** replace Astrofest.

Doug Slauson of the Cedar Amateur Astronomers has proposed planting a couple of prairie restoration plots at their Palisades-Dows Observatory. Other members of his society agreed that this would be fine in the out-of-the-way areas. The CAA has contacted their county's conservation department regarding the project. The prairie restoration would be considered for next spring. It is felt that "prairie plots would not only be a good use of unused areas at Palisades-Dows, providing habitat for beneficial insects, but would also reduce the amount of necessary maintenance at the site." Something to think about for your observatory.

The Sheboygan Astronomical Society was visited by the Dean of UW-Sheboygan. The University is interested in forging countywide relationships with such groups. He also proposed that they take part in a three to five year plan to refurbish the on-campus observatory. Another project that the Sheboygan A.S. has been working on is the Mars Helical Antenna. The purpose of the antenna is to monitor Mars probe beacons on amateur radio bands. The sensitive antenna was also used on the SuperLoki TV transmissions with good results.

Introducing . . . Richard Klappal The New Editor!

by Richard Klappal
Northern Lights

Richard Klappal has been a member of the Fox Valley Astronomical Society for eight years; He has served as vice-president; two years as President, and has been its newsletter editor for more than four years. He teaches one or two courses of Observational Astronomy per year at Waubonsee Community College.

He was raised in south-central South Dakota, where the night skies are still dark, and developed his initial interest in astronomy while in high school. He graduated from South Dakota School of Mines and Technology in 1970 with a degree in Chemistry, with interests in organic and analytical chemistry. The use of computers in the analytical work eventually lead to a career shift, and after fifteen-years of software development and field support is he now a Software Quality Engineer with Lucent Technologies - Bell Laboratories in Naperville. He received his certification as a Software Quality Engineer from the American Society for Quality in 1997.

Outside of spending far too many hours in front of a computer and writing newsletters, he is interested in comet hunting, deep-sky observing, astrophotography, and has a 12-inch f/4 mirror in "final figuring".

He lives in Aurora, IL, an appropriate city for the editor of **Northern Lights**; he occasionally recognizes very bad puns.



Richard Klappal

Information, subscription requests, and articles should be mailed to the address below. Society newsletters should also be mailed to:

Northern Lights
P.O. Box 7556
Aurora, IL 60507-7556
E-mail: klappal@xnet.com

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Articles and ideas for articles about any astronomical topic of interest to amateur astronomers are invited and should be mailed to the above address or e-mailed to klappal@xnet.com. *Northern Lights* is edited by Berton and Janet Stevens. All material is copyright 1998 by the authors and used with their permission.

My Interest in Astronomy.

by Phil Hahn
Des Moines A. S.

Peering into the telescope, I was immediately enchanted at the sight of M-31, the nearest major galaxy to us at a distance of about two and a quarter million light years. The delicate white disk-shaped spiral with pinwheel-like arms seemed like an exquisitely fine sand painting in miniature, suspended in the deepest black of a winter night sky. The



Radiance from this fine-grained composition gave it the strange appearance of being alive, and realizing that each one of the almost imperceptibly small, gleaming crystals represented a star as large as, or larger than, our own Sun, only heightened this aesthetic experience.

But this aesthetic experience suddenly shifted to the mystical when I realized that I was not seeing this galaxy in the present at all. I was seeing it over two million year ago! The light, and hence the image, had been traveling for two and a quarter million years at the speed of light, 186,000 miles per second, before it reached the eyepiece of the telescope into which I had been looking.

This experience occurred at a Christmas party hosted by one of the members of my astronomy club in Willmar and more or less represents the significant features of my interest in what some call "star gazing". It expresses both the aesthetic and the mystical features of this extremely enriching past time. It also provides a healthy "escapism" from, or transcendence for, our mundane reality with its cramped ruts and routines. Some of us in the club believe that it puts a balance in our lives like nothing else possibly could.

Lately, this same "some of us" have begun to wax rather philosophical and have tried to articulate some of our own private musings on the whole issue. At one of our recent club meetings I contributed to the ongoing dialog by recalling an incident from one of Carlos Castenada's books which purportedly explores Amerindian religion and mysticism. I mentioned how Castenada described one scene in which he lay on the desert ground one time in a fit of depression, only to find release from whatever emotional burdens he had (which must have been considerable) when he spied a nearby beetle and suddenly concluded that he was no more important than that insect! (He recalled tears of joy!)

Although this may have been Castenada's "way out", I went on by concluding that I preferred putting my own burdens and cares into perspective by contemplating the vast "mysterium tremendum" we are a part of as we gaze upward on a dark starry night. I concluded that our subject under consideration also satisfies many other needs: aesthetic, mystical and intellectual, as well as technical or scientific. For good measure, I even threw in a quote from a forgotten source stating that "metaphysical speculation makes us whole", probably without integrating it well into the particular point I was making.

Our mostly lively discussions have centered around the technical (scientific) versus the aesthetic dimensions of astronomy. My contribution to the dialogue one evening was to recall someone who quoted Einstein as having said that science is but a means to an end, but that aesthetic beauty is an end in itself and man's most noble pursuit.

At any rate, it is plain that astronomy is both: a "scientific" (technical) pursuit and a source of aesthetic pleasure mixed with mystical experience. This is, if I remember correctly, the conclusion reached by Perseg in "Zen and the Art of Motorcycle Maintenance". He pointed out that two established traditions in our culture, the romantic/aesthetic and technical/scientific, both express aspects of the whole of reality.

Actually, as interesting as some of our digressions have been, many would probably consider them a bit too "heady" and cite more down-to-earth reasons for their interest. After all, astronomy is quite a civilized activity, and pursuing it does no violence to any aspect of the environment and promotes rational reflection. One can get a special sense of this "civilized endeavor" at times while observing on a starry night. A special quiet happens when falling into concentration over star maps and telescopes until the muted voices of the participating observers seem to all but disappear into the great vaulted silence of the fathomless distances above. (Oops, waxing poetical again!)

Although the title of this article indicates my interest in astronomy, a somewhat different set of reasons, feelings, and perceptions could be someone else's

interest in the same subject. As with fingerprints, no two individuals will have exactly the same patterns of interest. It can be a fascination that lasts a lifetime. It could start with learning the major constellations and locating deep-sky objects by using star charts, the unaided eye, or as a modest piece of equipment as a pair of binoculars. Many of the major objects of interest, galaxies, nebulae, star clusters, can be seen this way. That is why there is a book titled, *Touring the Universe Through Binoculars*.

Astronomy is an interest that can grow quietly, or probably most often, by fits, starts, and backsliding, with a fascination that will never go completely away. It can be encouraged by associating with the members of an amateur astronomical society. It can also be enjoyed as a solitary activity, as when one simply gazes into the depths of a dark winter sky contemplating the vast distances of stars and beyond to barely detectable objects at the edge of the known universe receding from the Earth at a rate equal to 95 percent of the speed of light.

Reprinted from the *Starlight Journal*, the newsletter of the Des Moines Astronomical Society.

The 1997 Eastern Iowa Star Party

by Ken Boquist
Quad Cities A.S.



The 1997 Eastern Iowa Star Party (E.I.S.P.) was held from October 3 through October 5 at the Wapsi River Environmental Education Center near Dixon, Iowa. This was one of the most successful E.I.S.P.'s we have had since we began E.I.S.P. back in the mid-1980s. There were a wide variety of telescopes, wonderful door prizes, and, of course, the famous hot dog roasting ceremony each night. Clear skies were present for both nights, and there was very little dew. Best of all, we had very good attendance with 95 people registering for door prizes this year.

If you were interested in looking through refractors, there were 6-inch refractors from both Astro-Physics and D & G at E.I.S.P. It was quite interesting to compare the two telescopes since the D & G achromatic doublet had very little color. This telescope certainly demonstrated that the color error in an achromatic doublet so many people complain about is not that bad. Sure, the Astro-Physics had practically no color, but the D & G doublet still provided a nice images of Jupiter and Saturn.

The reflectors present ranged in aperture from 6-inch aperture all the way up to the 25-inch monster, with plenty of different sizes in between. Large Dobsonians by Obsession Telescopes were fairly common this year, as there were a 15-inch, two 18-inchers and the 25-inch. It was interesting to compare the sizes of these 'scopes. With the 15-inch, you did not need a ladder or step-stool to see objects pretty high in the sky. With the 25-inch, a tall stepladder (about eight to ten feet) was necessary for practically all objects. However, the views through this telescope more than offset the need for the stepladder. Aside from these large telescopes, one small 'scope that impressed me was a 6-inch f/12. This particular reflector offered high quality images of the Moon, Jupiter, and Saturn. It demonstrated that a high quality reflector with a very small central obstruction can provide refractor-like images.

For the Schmidt-Cassegrain Telescope (S.C.T.) crowd, there were not quite as many at E.I.S.P. this year as in the past. However, this was more than offset by the chance to look through S.C.T.s that one does not see very often. One fellow brought his Meade 12-inch, while another person brought his Celestron 14-inch (yes, a C-14!) on the Losmandy G-11 Equatorial mount. Both of these telescopes performed very well. I was particularly impressed with the C-14, as it seemed to provide a very high quality image, and it seemed to be quite stable.

One thing that made E.I.S.P. quite successful in the last few years has been the door prizes. Like last year, we had quite a few door prizes, and some of the prizes donated were extremely generous. For example, the Astronomical Society of the Pacific donated a copy of their new software called RealSky. This particular software offers, on a number of CD-ROMs, the red-light images of the Palomar Sky Survey. This is not a cheap program, as it retails for $250. Meade instruments donated an 8.8 mm Ultra Wide Angle Series 4000 eyepiece, that retails for about $240. Of course, these two items were the exception rather than the rule, but there were quite a few useful items and gift certificates of more modest value. Some of the other donors (there are too many to list here) included Kalmbach Publishing (publishers of Astronomy magazine), Rini Eyepieces, and Roger Tuthill.

The weather this year was terrific. Except for the early morning hours on Saturday, we had clear skies. Dewing problems were quite minimal. From a temperature standpoint, even though it got very warm Friday, it cooled off enough at night so that it was not too hot to sleep once you decided to pack it in. Saturday night demonstrated that no matter how warm it is during the day in October, one should still bring some warm clothing. One poor fellow found this out the hard way as the temperature plummeted after the Sun went down. He only had shorts and a light jacket available, so he got cold in a hurry. Nevertheless, he stuck around until two in the morning. One thing that made this year so much better than last year was the absence of dust. Those of you present last year may remember that it was very dusty. Fortunately, this year was basically dust-free.

If you did not make it to this year's E.I.S.P., you really missed out on some great observing, as well as the opportunity to look through a variety of different telescopes. Hopefully, you will consider making the trip to next year's event. It has been tentatively scheduled for October 16, 17, and 18, 1998.

Reprinted from *The Meridian*, the newsletter of the Quad City Astronomical Society.

Wither Thou Goest?

by Rudy Poklar
Milwuakee A. S.



There has been quite an influx of new members into the Milwaukee Astronomical Society in recent years, some joining straight out of a star party, aspiring to be "amateur astronomers". The good news is that there are no formal qualifications. The other side of the coin is that to get any significant enjoyment and satisfaction from this hobby, you have to work at it. If you are brand new to this hobby, the first tools you will need are the eyes in your head. Get out there on dark nights (or find dark sites) and learn the constellation structure and its seasonal variations. Keep at it until the sky is an old friend. You can augment this process with star charts, and planispheres, as well as memory aides like the summer triad of stars, etc.

Graduating to a pair of good binoculars, you can start to pick out more stars and groupings of stars that form galaxies, clusters, and nebulas of past star cataclysms. About here a good 6-inch or 8-inch telescope (and learning to use it well) comes into play. Some pursue certificates that requires observing many deep space objects, all without the aid of setting circles (i.e., knowing the locus of these objects within the constellation frame and observing them). Many do part or all of this without a certificate in mind. Hopefully your observing and recording skills become honed. Others focus their primary attention on observing planetary phenomena.

Somewhere around here comes a fork in the road. Some are satisfied to simply be students of the universe embellishing their knowledge of planets and objects in the night sky that they have learned to find. Many of these types are the "Johnny Appleseeds" that like to educate the public about this universe of ours (at star parties, etc.). For some, time constraints or desire, curtail doing any more.

Others are the "tinkerers". They like to build better telescopes, improve on photography, build and improve on CCD imaging systems, photometric measurement devices, or adapt modern digital computers as tools to enhance observing. A good example of this, in part, is the quartet of M.A.S. members who are in process of digitizing the "Z" telescope. When they achieve their goals, Z-'scope will be easier to use as well as a more powerful observing tool. The tinkerers are always looking for a way to improve and apply new technology to astronomy.

Still others use observing skills to become data gatherers and analyzers contributing to the rapidly developing knowledge base of our universe. Even with the advent of the Hubble Space Telescope and giant mirrors, there is still need for amateur inputs. These big machines are heavily scheduled by professional astronomers, but in very specific and focused fields of study. One area that is supported by amateurs, for example, is variable stars (of various types). Amateurs faithfully record their magnitude variations as a function of time. These observations do add to the knowledge base of our universe. Similarly, grazes and occultations add to the knowledge of our solar system, refining orbital parameters and the shapes of planets and asteroids (and some stellar data, too). An example of this type of amateur is our own observatory director (Gerry Samolyk) with thousands of logged observations. There are many other facets of amateur observing and data acquisition just as interesting, but not even touched upon here.

So . . . Where do you fit in? Are you a student of the universe, a Johnny Appleseed, a tinkerer, or a data gatherer and analyzer? The message here is that there is room for all, and there is always room to explore new directions in this hobby of ours.

Mr. Poklaar concludes: "I make no pretense at being an experienced astronomy observer (as yet) . . . but the above editorial reflects my observations of the Milwaukee Astronomical Society scene."

Reprinted from the *Focal Point*, newsletter of the Milwaukee Astronomical Society.

Of Iowa Meteorites and Strewnfields.

by Norma Cutsforts
Cedar A. A., Inc.

Hypothetical asteroid impacts on our home planet are a current "hot" topic. I had the pleasure of viewing an excellent National Geographic special on this subject last February. The program also featured Eugene and Carolyn Shoemaker, David Levy, and the glorious impact of their co-discovered comet on Jupiter in July 1994.

On a smaller scale, I have been intrigued with the Iowa connection to meteorites and meteorite showers since last summer, when I bicycled through Estherville on RAGBRAI XXIV. This town's Carnegie Library displays a slice of the largest meteorite known to have impacted the North American continent.

I have learned of four other Iowa impact sites through the March/April 1992 issue of *Mercury* (the Journal of the Astronomical Society of the Pacific) and the April 1958 issue of *Palimpsest*, the Iowa historical magazine. This issue of *Palimpsest* consists of five articles written by Ben Hur Wilson, originally published between 1927-1944.

The first recorded meteorite shower in Iowa happened right here in Linn County! Numerous witnesses, from as far as Iowa City, reported a rumbling noise like distant thunder about 2:50 p.m. on February 25, 1847. Next came three cannon-like sounds in rapid succession; then a whizzing sound in different directions. Smoke appeared in two places and seemed to have a circular motion.

Several witnesses actually saw fragments hit the snow. Two men at work outside saw snow fly after hearing the loud sounds. A stone had fallen and bounced twice: first eight feet, then two feet. It weighed 2 pounds, 10 ounces. A farmer saw dirt and snow fly where a stone

struck. This broken meteorite weighed 42 pounds.

The strewnfield is about 3 to 4 miles south of the old Bertram station of the Chicago and Northwestern Railroad. Ben Hur Wilson described the stones as "veined white chrondite", a common stony variety. Reportedly, many fragments were crushed by individuals looking for silver or iron. Wilson optimistically states, "It . . . is not beyond the range of probability that pieces yet remain upon the meteoric field along the banks of the Cedar River in Linn County".

A complete 128 gram specimen from this shower, crusted and intersected with numerous fine cracks, is displayed at the Field Museum of Natural History in Chicago. This is the only institution that houses representative samples from all five documented Iowa meteor shower/fireballs.

Wilson credits the total solar eclipse of 1869, visible across much of Iowa, with giving sciences "a tremendous popular impetus. In the last quarter of the nineteenth century, it began to be accepted that rocks could indeed 'fall from the sky', and that these rocks originated from outer space." Thus, the following meteorite impacts were treated with more discernment.

The Amana meteorite shower occurred between 10:20 and 10:30 p.m. on Friday, February 12, 1875. Many citizens were out and about, socializing and having sleigh parties. One witness reported a "bright light from which emerged a great ball of fire". This light momentarily eclipsed the Moon in brightness. Five minutes after the meteor was out of sight, Amana observers heard an "intensely loud and crashing explosion." The meteor was visible from Omaha, Chicago, St. Paul, and St. Louis. The noise could be heard from a 75-mile radius.

Professor N. R. Leonard of the State University of Iowa determined that the meteor traveled from southwest to northeast at an angle of 18° degrees with the meridian. The total length of the visible path of 200 miles was traversed in about 10 seconds!

The strewnfield stretched over Amana and Iowa townships. Many stony meteorites were recovered. Two large stones (74 pounds and 48 pounds) are displayed at the University of Iowa Geology Museum.

Estherville's strewnfield was created in the late Saturday afternoon of May 10, 1879. Witnesses as far as 150 miles away, along the Big Sioux River, saw pearly ribbons of smoke resembling a gigantic crow's foot in the sky. Nearby residents reported a brilliant white body with trailing ribbons of vapor, accompanied by a terrific explosion that broke window panes. The meteorite (later estimated to weigh 744 pounds) burst and separated into three large chunks as it neared Earth.

A center slice of the relatively rare stony-iron (mesosiderite) meteorite, weighing eight and one-half pounds, is prominently displayed behind glass in the town's library. It is smooth in appearance, colored brown, with flecks of gray throughout the slice. The meteorite is composed of iron, nickel, phosphorus, sulfur and an unknown metal dubbed the "Esthervillite". An intriguing sculpture depicting the essence of the impact (created by Tom Gibbs, a Dubuque artist) rests on the library's Square. A historical marker located north of Estherville on Highway 4 marks the site of the impact.

A fireball briefly eclipsed a Sun only one degree from sunset on May 2, 1890, near Forest City. The meteor was also observed from Chamberlain, South Dakota, 300 miles away from the impact site! The fireball was reported to be "pear-shaped, with a comet-like tail three to four degrees long". For many miles around a noise was heard resembling heavy cannonading, accompanied by a "rushing sound" and a noticeable tremor. The strewnfield, 11 miles northwest of Forest City, is about four miles by two miles. Several hundred stony meteorites, weighing from one ounce to 81 pounds, have been recovered from the area.

Lastly, here is one for the Twentieth Century. A 108-pound iron meteorite was found by Harvey Meevers while he was cultivating corn on his Monona County farm on June 17, 1939. This was the first iron type, medium octahedrite recovered in Iowa. A meteorite of this classification created the Arizona Meteor Crater. This specimen, called the "Mapleton Meteor", is speculated to be the result of a May 31, 1917 fireball. At that time of year the ground would not have been frozen, allowing the meteorite to penetrate the ground deeply. Meever sold the complete meteorite, catalogue No. Me 2286, to the Field Museum of Natural History.

When I was very young, I wanted to "catch a falling star and put it in my pocket". I would look up at the daytime sky for long periods. Perhaps now I should be spending some time in the old strewnfield by the banks of the Cedar River.

Reprinted from *The Prime Focus*, newsletter of the Cedar Amateur Astronomers, Inc.

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The Search for Tomorrow.

Let those who complain that too much money is being spent on abstract knowledge while people are starving remember this: The alternative to knowledge is savagery. Their very existence as stowaways on the voyage of civilization is owing to the advances in science which permit some to live without doing their share of the work. Let them be tolerant, then, lest by encumbering the useful ones they destroy the thing which keeps them alive."

— George Ellery Hale