

THE

SPECTRUM



NEWSLETTER OF THE BUFFALO ASTRONOMICAL ASSOCIATION, INC.

MEETINGS NOTICE

FRIDAYS: APR 12

April 12th: "Astronomy on the Internet" - BAA member Richard Jones has set up the BAA home page so those 'connected' folks can get club information as well as Astronomy related files and images. He is an adept traveller of the net and will share some of his favorite places as well as show how to do it. He says it's easy to do - come and find out!

Meetings: 2nd Fridays @ 7:30 pm Sep-June.

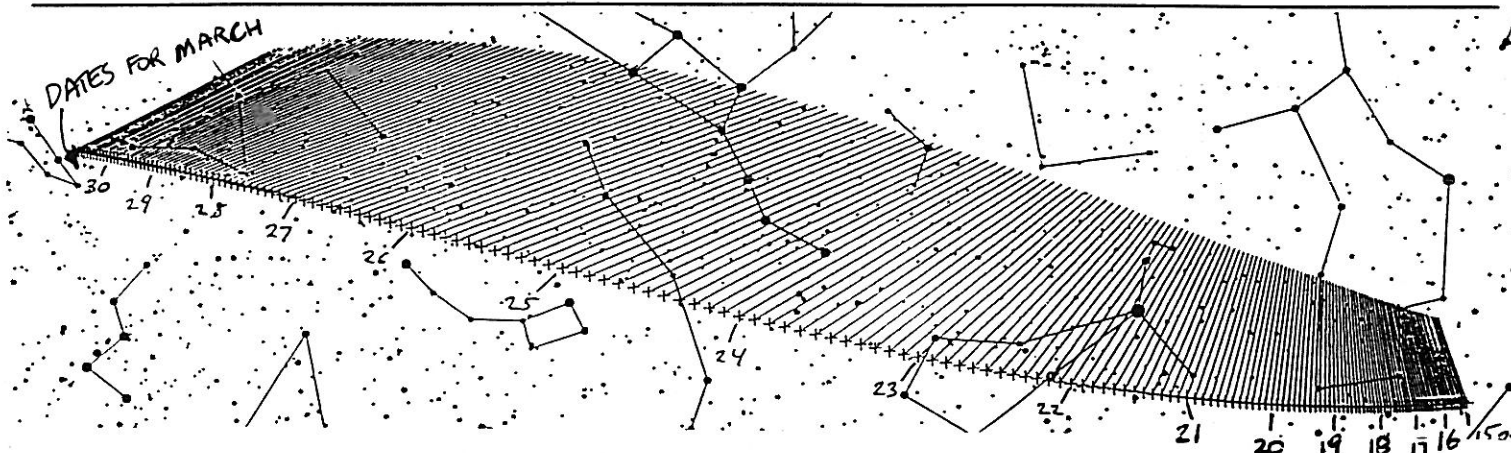
Location: New Science Building Auditorium at Buffalo State College on Elmwood Ave.

We hope to see you at these meetings.
As usual refreshments will follow.

Bring a friend and your ideas!

STOP PRESS!!

COMET HYAKUTAKE COMING TO A SKY NEAR YOU!
Mag 3.4 on 3/18, 1.5 on 3/23, 1.1 on 3/28, 2.1 on 4/2, 2.5 on 4/7



PRESIDENT'S MESSAGE

Bob Hughes

Dear BAA members,

On January 23rd, Terry Farrell, citing work and family commitments, resigned as President of the Buffalo Astronomical Association. I therefore have assumed the office of BAA President. Although I was not expecting to be President at this time, I am prepared to accept the challenge of running this association. I know that there are a number of BAA members who will offer their time and effort to make my job as President easier to do. I look forward to working with the BAA board and its general membership to make the Buffalo Astronomical Association an organization we can be proud of, and that can enhance our knowledge and enjoyment of the science and hobby of astronomy.



Comet Hyakutake (1996 B2) is naked eye brightness (on 3/8) and brightening! Yes, it looks like it's going to be a monster -- the best since Comet West in 1975. It's predicted to be 20-25 times brighter than it was on the 8th.

ALERT!! -- Special member's night

Messier marathon on March 23 at Beaver Meadow.
Please call Dan (773-5015) for details/raindate.
Comet Hyakutake will be well placed for viewing and near maximum brightness.
== A "Don't miss" event! ==

MEETINGS CANCELLATION POLICY

If, for any reason, (most likely snow or ice storms), there might be cause for cancellation of the meetings of the B.A.A., tune your radio to either WBEN (930) or WGR (550). Also if Buffalo State College has been closed due to inclement weather, so will the meeting of the B.A.A. be cancelled.

BEAVER MEADOW TELEPHONE

The telephone at Beaver Meadow, 716-457-3104, is for emergency use only at no cost. Local calls may be placed for a small charge - see the collection box by the phone. This phone cannot make long distance calls.

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TAXACOM computer bulletin board - 716-896-7581
for more information call Jack Empson at 716-745-3138

MEMBERSHIP CORNER

Joe Orzechowski

Two years ago I wrote a rather brief column for the March/April issue of the SPECTRUM because I was busy getting ready for a trek to the Winter Star Party in the Florida Keys. Well, the travel bug has struck once again and the time for my departure to the dark skies of Las Vegas is fast approaching. Once again I'll be travelling with Bill Smith and his wife Carol, Tom Bemus, and my wife Bev. Some new faces will also be along for this year's excursion including Dan and Melissa Marcus and Bob and Laurie Titran. We've contacted the L.V. Astronomical Society and made arrangements to use their observing site while visiting the Silver State. It was no surprise to discover that those dark skies will cost us a 50-60 mile trip out into the surrounding desert away from the glitz and glitter of the casinos. A report on the trip (including any gambling successes) will appear in the next issue.

Having said that, let's address some issues a little closer to home. I'd like to thank those who have renewed their membership in the BAA and I would urge you all to make the most of your membership. Please join us at one of our monthly meetings, attend one of the Star Parties being held this summer, or attend a public night out at the observatory. If you have any questions about what goes on at these events, give me a call at 632-7091 days or 839-9109 evenings.

Based on my own personal experience, I believe public nights provide the best opportunity for you to acquaint yourself with other BAA members and their activities, to learn some basic, down-in-the-trenches astronomy, and to get some hands-on experience with the club's (YOUR) equipment. Afraid you'll just get in the way? Don't be! New members out at the observatory are not looked upon as obstacles but rather as targets of opportunity. Dan and Bob would love to groom you to become a public night staffer, if not to actually replace them then just to share some of the work load during a busy night. Think that you don't know enough to be of any use at a public night? You're wrong! You probably know more about astronomy than 90% of the people that come to visit the observatory. That's why you joined the BAA and that's why they come to public nights. Besides, as far as I know, there are no entrance examinations to pass or minimum requirements to meet in order to help out at a public night. So give it a try. You'll find it well worth the trip.

The new-and-improved 1996 BAA Membership Directory will have a new format and will feature member e-mail addresses. If you'd like your e-mail address included in the directory, give me a call. I am hoping that the directory will be available for distribution at the April meeting. On a less positive note, I must once again report that there are no new members to introduce. It seems that the cold and cloudy winter weather has removed any thoughts of astronomy from the minds of people who would otherwise be so inclined. Let's hope that we can rekindle that astral spark in those folks once the "Public Night" season begins again in April.



BAA ANNALS

Rowland A. Rupp

5 YEARS AGO - Computers were the topic for our March 1991 meeting. To quote the SPECTRUM: "There will be MS DOS and Apple DOS machines available for 3 or 4 intimate, face-to-face, interactive, hands-on demonstrations of how the members stay up late at night with their computers on rainy nights." Dave Sepulveda, Jack Mack and others were the demonstrators of this intimidating hobby. In April, Joe Cardin spoke of his work at Moog, Inc. for NASA. His topic was entitled "Serviceable Orbital Observatories."

Bill Smith and Carol Lorenc announced they were holding an all night

Messier marathon at their home in Jamestown. It has become an annual tradition for the heartier members of the BAA. The SPECTRUM had a reprint of a listing of meteor showers that was part of Ray Manners' presentation at the BAA's 1967 Northeast Region meeting of the Astronomical League. Manners had extracted the shower list from a memoir by W.F. Denning, compiled in 1896-99.

10 YEARS AGO - For our March 1986 meeting we convened at the Roosevelt room in the Museum of Science. Professor Philip Hronberg from the University of Toronto spoke on "Galaxy M-82". The encounter of Voyager 11 with Uranus was the astronomical topic of the day in April 1986. Ernst Both and Mary Lou Bebak presented preliminary data on the discoveries being made at the seventh planet.

Michael Idem wrote an article for the SPECTRUM on "The Effect of Atmospheric Turbulence on Telescopic Magnitude Limits". It emphasizes that atmospheric turbulence has a more deleterious effect on large aperture telescopes than on smaller ones. Michael also had an observation report on Comet Halley, as did Carl Milazzo. Rowland Rupp wrote an article, "Another Comet". Instead of one more article on Halley, he wrote about Comet Kohoutek that fizzled through the sky a little more than a decade before.

The BAA put on two mall shows -- at McKinley Mall headed by John Yerger, and at Eastern Hills headed by Doris Koestler. We were also trying to revive the Study Section; maybe we should try once more. Carl Milazzo, Observatory Director in 1986, lamented the lack of good observing conditions. What's new?

15 YEARS AGO - We had four members giving short topics at the March 1981 meeting. The speakers were Fred Price, Rowland Rupp, Kurt Mancuso and Darwin Christy. The topics weren't given. For April we heard from Dr. David Meisel from Geneseo State College on "Comets and Meteors". Dr. Meisel was head of the American Meteor Society at that time.

Former member Paul Young had an article on the construction of sundials in the SPECTRUM. With the aid of his drawings, you could build one yourself. If you want a copy of the article, let me know.

An article on Venus by Jim Machowski also appeared. Al Mohn and Jim Russell were co-Observatory Directors in 1981. They lamented the bad weather too. Edith Geiger did a member profile on Miro Catipovik. According to her *Spy and Tell* column, Curt Mancuso was one of 40 finalists in the Westinghouse Science Talent Search. He was doing work in solar spectroscopy, with guidance from Ernst Both. John Riggs was congratulated for having an article on his observing chair published in *Sky and Telescope* (February 1981, pgs. 162-164).

25 YEARS AGO - The March 1971 meeting was presented by Fred Price "Water and Life on the Moon". Ralph Dakin from Rochester, inventor of the Dakin barlow eyepiece, spoke on "Gratings in Astronomy".

Ernst Both gave us an historical insight into the early observations of Mars by submitting to the SPECTRUM a report by Wilhelm Beer and Johann Heinrich Madler of their observations of the 1830 opposition. Bob Burdick had a brief article in the March SPECTRUM on how to measure the radius of curvature of a mirror by timing a rolling ball on its surface.

Warren Steinberg wrote on the activities of the Instrument Section. At one meeting Thad Czerniejewski, a founder of the BAA, tested a 10-inch mirror he had ground 37 years before (1934!). Gil Gagne, another old-time member, brought in his 10-inch mirror too.

40 YEARS AGO - We had a movie on "The Story of Palomar" at our meeting in March 1956. For April, member Dr. F. Shirley Jones spoke on solar prominences.



Officers

Bob Hughes - President
Rowland Rupp - Vice President
Lynn Sigurdson - Secretary
Steve Kramer - Treasurer

Dr. Jack Mack - Museum Representative

Board members at large

Gene Witkowski - Joe Orzechowski
- Bill Smith
Rowland Rupp - Fellow Representative
Joe Orzechowski - Membership

Observatory Directors

Dan Marcus & Bob Titran

SPECTRUM STAFF

Bill Smith - Editor / Layout
Bev Orzechowski - Circulation

Mission To A Comet

After over a decade since it's embarrassing lack of interest in comet Halley's 1986 apparition, NASA announced late in 1995 a mission to a comet. STARDUST will not only be the first U.S. mission to a comet, it will also be the first mission in human history to return comet samples to earth. STARDUST is scheduled for launch in February 1999, will encounter comet P/Wild-2 in January 2004 and will return to Earth in January 2006 when a capsule containing cometary and interstellar material will parachute safely onto a dry Utah lake bed. Comet P/Wild-2 is considered a "fresh comet" because it was deflected by Jupiter in 1974 from an orbit that was much further out in the solar system.

STARDUST was selected from among 28 other proposals as part of NASA's Discovery Program. Initiated in the 1994 budget, the Discovery Program features science oriented planetary spacecraft that can be built for less than \$150 million (excluding launch vehicle) and can be built in less than 36 months. The mission will utilize an innovative material called *Aerogel* to collect the dust and volatiles. It is extremely light (the lowest density solid material in the world) and extremely porous, giving it a great deal of surface area. Aerogel is also a great insulator - 1 inch of Aerogel could insulate your house 5 times better than 6 inches of fiberglass insulation! STARDUST will also have among its scientific instruments, an optical camera that should give images 10 times better than those taken of comet Halley by the European Space Agency's Giotto spacecraft. A mass spectrometer will provide in-flight data on the composition of the dust and volatiles.

Because of the mission trajectory, there is also an added bonus: STARDUST will also collect interstellar dust entering our solar system which was detected by Ulysses in 1993. The mission's comparatively low flight speed of 3.5 miles/second (Pioneer attained 30 mi/sec and Voyager reached 11 mi/sec) will insure that the impact of the material upon collection will not cause it to be altered.

The results of this mission should yield unprecedented insight into the birth of our solar system. Comets were formed at the outer edge of the pre-solar nebula and contain interstellar grains and nebular condensates that were present before our solar system was born.

John Marino

Observing Too Loud?

A few years ago, I observed and photographed an aurora at Stellafane - an outdoor amateur astronomy convention attended each year by about 2000 people. It is held during an August new moon weekend.

Early that evening, an aurora flared into activity with green curtains waving, spiking, and pulsating. On a typical night, the sea of amateurs at Stellafane face randomly, and all telescopes have someone at the eyepiece. That night, the scopes were abandoned and everyone was facing in one direction, looking upwards at the aurora.

Later that night, the aurora suddenly surged with more intensity, and then a meteor flashed upon the scene. The entire crowd greeted the meteor with a chorus of ooohs and aaahs. Suddenly out of the dark came a voice complaining about the noise - this particular person was trying to get to sleep! We explained to him what was happening up in the sky, but he didn't care. About ten seconds later, someone sound asleep nearby started snoring louder than a bullfrog...

Carl Milazzo

SPY AND TELL

Edith L. Geiger

On November 20, '95, **Terry Farrell** started to work for Computer Task Group, a company with offices on Delaware Avenue. He holds the position of Financial Administrator. The company covers southeastern United States, and basically, Terry will be doing business with North Carolina.

A happening in August '95:

Lynn and Wade Sigurdson and family went on a camping-canoe trip to Algonquin Park in Canada. They set up camp, and were soon to be visited by a little bear cub. Mamma bear was nowhere to be seen, which was of concern to the Sigurdsons, especially when the cub chose to hang around their campsite. This finally necessitated their breaking up camp and moving to another location. It wasn't long, however, before that same little cub appeared again. The Sigurdsons decided it was time to report the cub to the park police who, by the way, had been looking for this little creature. Thanks to the Sigurdsons its whereabouts was known.

Jack Empson is presently working at the University of Buffalo as a computer technician along with **Dave Sepulveda** who has been employed there since 1987.

The **Buffalo News** of January 8, carried a fine article by its Nature Watch columnist and BAA member, **Gerry Rising**, entitled, "A tribute in his own words to Ernst Both, one of a kind."

Speaking of Gerry, it seems that on the Christmas bird count in the Beaver Meadow area, he decided to go off into the swamp away from the group. It is said that he finally returned with no birds to report and two wet feet.

Doris Koestler has been ill, but is on the mend and hopes to attend our meetings soon.

Carl Milazzo has two colored photographs for the month of October, in the **Discover the Universe** 1996 Calendar by Richard Berry.

Orrin Christy is Senior Research Scientist at Moore Business Forms, where he has worked for many years. He does a great deal of traveling for the company, both here and abroad, and was in Germany recently for the setting up of the company's large high speed printers.

Fred Price will be back with us after he returns from ten weeks at home in England.

Bill Smith, Carol, and a group of ten, took a trip to Las Vegas in February to enjoy some southwest astronomy, with time out for goofing off.

Jack and Jayne Mack are proud of their daughter, Alice, who is a freshman at Brown University. She received two A's and a B at the end of her first semester.



LOOKING FOR CONTRIBUTIONS!

We are not only looking for submissions but also any suggestions about what you'd like to see.

The SPECTRUM will only be a success if you participate.

Review the article on pg 5, select a topic and work on it. If you have a bright idea -- send them in.

SPECTRUM DEADLINE

The deadline for the May-June issue is
April 12th.

Send all submissions to Bev Orzechowski
125 Roycroft Blvd., Buffalo, NY, 14226.

Preferred format is typed or PC readable WordPerfect for DOS 5.1 or earlier, MS Word for DOS or ASCII.

-- scanning available --

Handwritten or other formats are fine too -- we really like submissions!

ASTRONOMICAL HAPPENINGS

TIME WELL SPENT IN ASTRONOMY

Moon

Last Qtr Mar 12	New Mar 19	1st Qtr Mar 26	Full Apr 3	Last Qtr Apr 10	New Apr 17	1st Qtr Apr 25	Full May 3	Last Qtr May 10
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Excellent or very pretty events are italicized and bold.

NOTE After midnight events are listed for the proper day! Thus 1 am on the 10th means you must be prepared be up late on the evening of the 9th.

Date	Time	Elevation	Direction	Evening events left aligned	Event description	Morning events right aligned
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Astronomical Naked-Eye Sky Events In March

13	5:30 AM	25°	SSE	Star cluster M25, gas clouds M18 and M17 lie 1.5°, 3° & 4° up and left of Moon
14	5:00 AM	16°	SE	<i>Jupiter is 4.5° right and bit below Moon; Sagittarius and the Milky Way to the right</i>
22	6:50 pm	34°	WSW	Venus is 6° up and right of the Moon
23	7:30 pm	38°	WSW	<i>Thin Moon, Venus, Hyades and Pleiades command western sky</i>
24	7:30 pm	48°	WSW	Bright star Aldebaran just below Moon

Spring is the best season for spotting a very thin, young Moon just after sunset (26 hr old on the 20th, 50 hr old on the 21st) as the path of the Moon and planets is very steep to the horizon. Thus at whatever angular distance the Moon is from the Sun, it will be higher off the horizon at a steep orbital inclination.

Astronomical Naked-Eye Sky Events In April

3 Wed.	sunset to 9 pm	0 to 22°	E	<i>LUNAR ECLIPSE: Moon rises already eclipsed; totality ends 7:53pm, partial phases end 9:00pm. Eerie as it is so low.</i>
6	dusk- 10 pm			Public night @ Beaver Meadow Observatory Canis Major, Puppis and Gemini - Waning full Moon
11	5:00 AM	21°	SE	Jupiter 12° right of Moon; Sagittarius & Milky Way to right
12	7:30 pm			MEETING of the BAA
18	8:25 pm	13°	WNW	1 day old Moon 8° below Mercury - Binos recommended
19	8:25 pm	15°	WNW	<i>Mercury 5° right of thin Moon; Hyades and Pleiades 10° above</i>
20	9 pm	20°	W	Moon at right edge of Hyades star cluster, Pleiades 12° right
25	9:35 pm	50°	SW	Star cluster M67 may be dimly seen 3° left of qtr. Moon - BINOS
20	dusk- 10 pm			Public night @ Beaver Meadow Observatory Venus - 3 day old Moon
22	☆ ☆		NE	Good conditions for Lyrid Meteor shower - Moon sets at 11:45 PM
28-5/3	8:15 pm	27°	WNW	Venus passes within 1° (on May 1) of bright star El Nath in constellation Auriga

Public nights start this month - dusk to 10pm! Prominent planets constellations and for the month during public night evenings are listed as well as the Moon's phase for that public event.

Best evening appearance of Mercury. **LUNAR ECLIPSE!**

BEAVER MEADOW OBSERVATORY 457-3104

Observing Report

1996 Public Night Schedule

The 1996 season for public nights at Beaver Meadow Observatory is quickly approaching. Our public nights will be held on the first and third Saturday of the month, April through October, rain or shine, from dusk until 10 PM. In addition, the Observatory will be open on Astronomy Day, May 4th, from 10 AM until 5 PM, and from noon until 5 PM on both November 9th and 10th in conjunction with the Audubon Center's Fall Open House. There will be public night viewing the night of November 9th.

What's a public night? Exactly what it sounds like - on public nights the Observatory is open to the public for viewing of the night sky through the BAA's telescopes. Club members operate the 'scopes (either the club's or their own), pointing out favorite deep sky objects, planets, and lunar features. Members also conduct naked-eye viewing sessions, pointing out stars, planets and constellations, introducing the interested public to the night sky. On cloudy nights (and often on clear nights too) club members give astronomy talks or present slide shows. Visitors come to the Observatory with a host of questions and a willingness to learn, making public nights an ideal opportunity to share your enthusiasm for astronomy - please plan on joining us at Beaver Meadow this year!

On the morning of December 2 we observed a "glory" from an airplane during a flight to Indianapolis. While we didn't know what it was at the time, as we looked down to the shadow of the plane on the clouds below us, we saw that the shadow was surrounded by 3 circular rainbows. The rings of color began with red at the innermost part of the circle, the rest of the spectrum visible as one looked outward from the plane's shadow. Three distinct bands of red were easily visible.

Fred Schaaf discusses glories in his books *Wonders of the Sky* and *Seeing the Sky*. Schaaf points out that this phenomenon is poorly understood, but is a fairly common sight since the advent of air travel (it used to be that you'd have to stand on a mountain top in the fog with your back to the sun in order to have much of a chance of seeing a glory). Schaaf writes that things to note when you see a glory include its size (ours was maybe 10 degrees or so), whether the center is dark or light (ours was dark), and that the glory is not just centered on the plane's shadow, but on the exact location of where you are on the plane!

On December 23rd at about 9 PM we spotted a 44-hour old crescent moon low in the murky western sky. Nearby Venus was also bright enough to punch through the thin clouds, treating us to a very pretty winter sunset.

Bob and Laurie Titran

Bob Titran

I'd Like to Write an Article for the Spectrum But . . .

How many of you have considered submitting an article for publication in the Spectrum but were reluctant to do so because you felt that your writing or your topic was in some way lacking. I'm here to tell you that it's not all that difficult to write an acceptable article. If you've been enjoying the hobby of astronomy for any length of time, I'm sure you must have one or two stories worth repeating to the BAA membership. To help you out I've put together some tips which were presented in two articles published in the Fall 1994 and the Fall 1995 issues of Amateur Astronomy magazine. (Thanks go to Carl Milazzo for bringing these articles to my attention.)

The most important rule is to just write your article like you talk. If you were sitting around with a couple of your friends and were telling them a story, you'd tell it in your own words. You wouldn't worry too much about being grammatically precise and you wouldn't be stopping every few minutes to look up some fancy word in a dictionary or a Thesaurus so that you could impress your friends. The next rule is one that I follow most of the time myself (and I didn't even know it was a rule). I'll quote directly from Amateur Astronomy magazine:

"When you start to write an article, simply write as fast as you can, let your thoughts flow, jot down the ideas as they flash through your mind, and don't worry about how you spell something. . . Then go back later after you have finished and start to clean it up."

Writing this way keeps those ideas in your head flowing onto the paper (or the screen). If you interrupt your train of thought to look up the spelling of a certain word, you may miss out on some of your best ideas for the article. Finally, if you're a real perfectionist, put the article aside for a few days after you've cleaned it up. Then go back and reread it. This will give you a fresh look at the story and you may find a few spots that you'd

like to polish or change. This second look can give you a reader's perspective of your article.

And if you just can't think of anything to write about, here are some ideas for topics which may interest you:

The best observing session I ever had was...
The most fun I ever had in astronomy was when...
The best telescope I ever used was...
My favorite observing place is...
I just built a telescope and...
My favorite objects to observe are...
This new thing is just great! It...
I was very disappointed in...
I wish someone could tell me how to...
I bought that new telescope because...
I got rid of that telescope because...
My favorite charts are...
We just had the best astronomy vacation at...
My favorite binocular objects are...
My favorite accessory is...

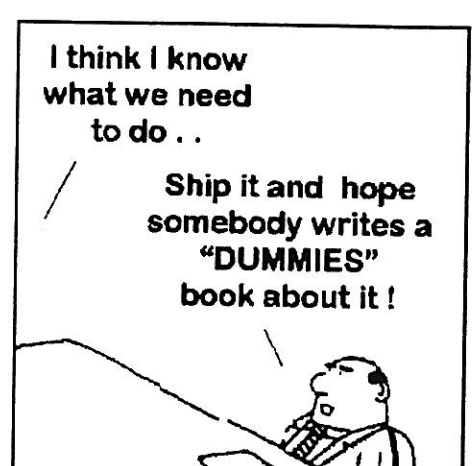
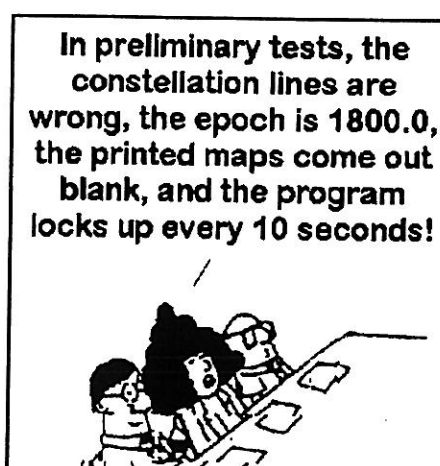
In general you want to accentuate the positive elements of your story and try to downplay any negatives. Don't bad-mouth that out-of-state astronomy club or the author of that new book. But do try to be honest and realistic. Sometimes the reader is more interested in reading about the things that went wrong with your last project or at your last observing session than how great it finally turned out.

That's all there is to it. I hope that I've convinced at least one or two of you out there to write an article for the Spectrum. I'm looking forward to seeing some new names on these pages in the near future. Remember, you can submit your articles on computer disk, computer printed or typewritten, or even handwritten as long as it's legible. And don't worry about your spelling; the editors run every article through a computer spell checker which catches almost all spelling errors.

Joe Orzechowski



from Bruce Newman ...



Beverly J. Orzechowski

Beverly is an amazingly gifted human being with a delightful sense of humor. She was born in East Greenbush, N.Y., a small town in the Albany-Hudson River area, where she was blessed with a happy home, with a brother and sister and loving parents.

Beverly attended Red Mill Elementary School, and East Greenbush Junior High where she was an excellent student in math and science, and easily won the \$1 awards given for good work in those subjects. She studied violin which she enjoyed very much, and in Columbia High School played in the 50 piece orchestra, and also played her first solo accompanied by the group. She entered the music competitions and played for school functions, and also being a vocalist, sang at weddings, anniversaries and in church. Her musical talent included playing the banjo which she used in performing at various events, and she actually carried a Union Card. With all this, she found time to be editor of the school newspaper, The Crossroads. Being a very good student, Bev graduated fourth in her class.

After graduation, Beverly enrolled at UB where she received a B.S. degree in chemistry. She went on to graduate school, majoring in physical chemistry (quantum mechanics), and received her Ph.D. in chemistry in 1977. She did her post doctoral work at Roswell in NMR cancer cell differentiation and is currently conducting research in automatic tumor recognition (mammography).

Bev became employed at Amherst Systems, Inc. where she was Program Manager EW (Electronic Warfare) Systems. It was at Amherst Systems that Beverly Thomas met Joe Orzechowski, who was also an employee. On October 12, 1985, Bev and Joe were married. They continued to work there until 1986, when they formed their own business, Niagara Systems & Software, Inc. a research and development company specializing in medical and military applications. The beginning export market to China has provided an opening for Niagara Systems with its palm held computer enabling nurses to collect vital signs information at the patient's bedside.

Bev knew nothing about astronomy until, on her first date with Joe, she was introduced to his 3" Celestron refractor. After Joe's careful instructions, she found her first star, a very beautiful bright light in the telescope. She was so impressed with her find, that she wanted to learn more about astronomy. Her star, however, proved to be the light of a coke machine 1/2 mile away. Still inspired by what she had seen, she continued her interest in astronomy, and in 1990, when she and Joe attended Astronomy Day at Buff State, they decided, then and there, to join the BAA, and have become very important members and a credit to our organization. Joe is our Membership Chairman and Bev is in charge of circulation.

As you know, the Orzechowski's are experienced travelers. Before Joe came into her life, Bev, in 1975, went alone on her first trip abroad. Together, Bev and Joe are enthusiastic campers and backpackers and have hiked the trails in the Tetons, Yellowstone, and Yosemite, and enjoyed canoeing and the great outdoors in Canada's Algonquin Park, and many other exciting places. They still have their eyes on a drive up the 1,523 mile Alaska Highway (Alcan Highway) to visit our 49th state.

In her spare time, Bev likes to read detective stories, astronomy articles, and one of her favorite authors, Charles Dickens. She is fond of her stuffed animal collection, especially the pink panther and an Alf doll. She also has a jackalope from Colorado in her menagerie. She is a confirmed chocoholic and can finish off a box in a day.

Beverly is a remarkable person with boundless energy, perseverance, a fine mind, and a sparkling personality.

Edith L. Geiger

Observatory Sites for Today's Urban Nomads

Today's urban astronomers frequently are forced to become nomads in order to follow their observational and photographic astronomy pursuits. The following are some ideas I'd like to share that may help these amateurs in their quest for quality observing sites at low cost.

First, let's identify the problems they encounter. There's the ever-present light pollution that affects urban and suburban dwellers alike. Fighting wind that shakes the telescope and chills the bones can be a losing battle. Then, add ground fog, dew, and mosquitoes to the list. Finally, finding dark sites with good horizons within reasonable driving distances can be their biggest problem.

Solutions to the above can be found with a little imagination. Need a dark site? If you're fortunate enough to be in a donut shop while the local police are taking a break, strike up a conversation with them. The police usually make it a point to regularly patrol such places and can be a big help in recommending those that are deserted and accessible, and identifying known trouble spots to stay away from. You can then check out the sites for unobstructed horizons and that have dark skies.

Wind doesn't necessarily have to cut short an observing night. You can block out wind as well as glaring street lights and car headlights by simply using a tarp. Four or more S-shaped hooks placed through the eyelets of a tarp can be attached to a tall chainlink fence. Areas suitable for this type of light- and windbreak can be found in many places. Using care not to trespass (even though when hot air balloons land they are trespassing) look along the perimeter of schools, parks, farms, cemeteries, and industrial land like quarries. Try radio towers, golf courses, air strips, water reservoirs, tennis courts, and utility company premises. Also try hooking the tarp to the fencing of baseball backstops which are found everywhere (campgrounds, parks, schools, volunteer fire departments).

Buildings and other structures can be taken advantage of to block out wind and lights from the city, passing cars, flood lights, and street utility poles. Barns, water towers, and other types of towers are almost always located on a hill or at high elevation. This elevation is also helpful in reducing the likelihood of heavy ground fog and dew. Mosquitoes are rare on hilltops and escarpments because of the breeze and lack of water, and most hilltops have at least one unobstructed horizon. If you can set up just 10 feet below the crest of a hill on the leeward side, you can greatly reduce or eliminate the effect of the wind.

If you're observing from a park or scout camp or seasonal roads that are normally closed during the winter, put all of your gear on a toboggan and pull it to that great observing site you've discovered. Seek out archery, gun clubs, and model airplane flight sites or an airstrip. These may be heavily used during daytime but are usually deserted at night. Of course, ask permission to be on their property at night. State conservation land, Amish areas, hay meadows, and beach boat launches are others to investigate.

Low traffic areas mean that you may not even need to put up a barrier at all if it is completely calm out. Dead-end roads are the best, but also look over short connecting roads. Using the inside curve of a nearly deserted road is a solution to having car headlights beam directly at you. For security reasons, bring some friends along or a CB radio or your dog. Always let someone at home know where you are going and when you're expected back.

A little creativity can go a long way toward making the most of the area you live in. The universe is only as far away as your nearest dark site.

Carl Milazzo



BOOK REVIEW:

EDWIN HUBBLE Mariner of the Nebulae

It seems I'm always writing book reviews, but rarely endorse the book. This time is different. I thoroughly enjoyed "Edwin Hubble—Mariner of the Nebulae" by Gale E. Christanson. I think you will too if you like biography and enjoy reading about the history of astronomy. The price is \$27.50, it is published by Farrar, Straus, Giroux.

Surely Hubble must have been one of the more exasperating of a relatively touchy breed of astronomers that practiced their trade in the first half of this century. Apparently he always was that way. As a youth he tended to be "naturally arrogant", making few friends and, ultimately, isolating himself from his family and its support. Later, he was inclined to exaggerate his achievements to the point that he was concerned that his false claims might be exposed to his detriment. Throughout his career he bickered, at times sharply, with his colleagues, and reveled in seeing their arguments vanquished.

He had it all. He was tall, handsome, athletic, brilliant, confident, successful and, to top it all, lucky. He was a boxer, basketball player, football player and a track and field star. While in high school, Hubble decided that winning one of the recently established Rhodes scholarships to Oxford would suit him, and, sure enough, he eventually won one. During his three years in England he acquired a degree in law which he never practiced (although he claimed otherwise), and a reverence for everything English, which he never abandoned. He adopted English mannerisms, English expressions, English apparel and an English palate.

I said he was lucky—here's an example. Always handsome and imposing, he was often admired by members of the opposite sex, especially as he began to make a name for himself. Hubble found he reciprocated the admiration of one such lady, only to discover she was already married to a wealthy mining engineer. The dilemma resolved itself, with typical Hubble good-fortune, when the mining engineer managed to plummet down a mine shaft, and there meet his maker. Hubble married the now rich widow, and enjoyed her enthusiastic adoration and wealth for the rest of his life.

Although some astronomy is covered in this book, don't expect to find learned treatises on galaxies, red-shifts or cosmology here. This is a biography; it deals with people. Hubble's achievements in astronomy placed him in the elite circles of that profession and those allied with it. Einstein and his wife were friends and guests of the Hubbles. (When Einstein and his wife, Elsa, were shown the 100-inch Hooker telescope, then the largest in the world, they were told it was used to determine the structure of the universe. Elsa commented that her husband did that on the back of old envelopes.) Counted among their circle of friends were Aldous Huxley, Charlie Chaplin, Douglas Fairbanks and a host of other art and film celebrities. The Hubbles hobnobbed with Fred Hoyle, Arthur Eddington and Sir James Jeans, visiting them on their frequent trips to England at the expense, and sometimes annoyance, of Lick Observatory.

Ordinarily one hears about the contributions made by famous astronomers in a disembodied sort of way. But here you'll receive glimpses of them that reveal their personal side as well. Hubble fought battles about astronomy issues with Harlow Shapley over the red-shift of nebulae (as Hubble insisted on calling galaxies), with Adriaan van Maanen over the rotation of galaxies and Knut Lundmark over the classification of galaxies. To his credit (and delight), Hubble's position always prevailed in the end. I suppose that's why that expensive piece of technology in Earth-orbit is called Hubble, instead of Shapley, van Maanen or Lundmark.

Rowland A. Rupp



Tales of the Western Spaceport Satellites

If you have an inclination to look for and SEE the wondrous machines called Earth Satellites, which are revolving about our lovely Planet, our Rancho Santa Ynez Mobile Estates is an ideal place to do just that. The reason we have such an ideal spot is that we have very few city lights and we have a dark sky to look into (except when we have a bright moon).

BEST TIME TO LOOK - 30 minutes after Sunset to 2 hours after Sunset. The Sunlight will not be reflecting off the satellites at a later time.

POSITION TO BE IN - Face a Southerly direction, in a comfortable chair so that your head can lean back, no house or street lights to shine into your eyes. (If you have trouble orienting to a Southerly direction, Nojoqui Falls is just about due south from our Park). A clear sky is absolutely necessary, no fog or clouds. Have on a warm jacket as your backside can get right chilly in good old RSYM.

NOW YOU ARE READY - The stars will be shining brightly and you will be looking at the stars in the Constellation of Scorpio (during summertime). Maintain sort of a vacuous stare at the stars and suddenly you will see a tiny pinpoint of light moving from North to South, or South to North. If you have not focused your eyes on an aircraft, you have SEEN A SATELLITE.

HOW THE SATELLITES MOVE - Most of those you will see are moving North to South, or South to North & were launched from Vandenberg. Occasionally you will see one moving from West to East, probably launched from Florida. The BIGGIE is the Russian Salyut which moves from the Northwest to the Southeast. If a satellite is blinking on and off, it is rotating and has a dark side & a bright side.

ASK YOURSELF A QUESTION - Why would a satellite launched toward the South Pole, from VAFB be moving from South to North? Answer: The Earth is rotating.

ADDED NOTE - Teena and I saw the rescue vehicle catching up to the Russian Salyut which later fell out of orbit, with most of it burning up on re-entry.

Homer Tennant

*The above was believed to have been contributed by Darwin Christy.
If not, let the editor know.*



POETRY CORNER:

Shine on You Crazy Diamond

Remember when you were young,
You shone like the sun
Shine on you crazy diamond.
Now there's a look in your eyes,
like black holes in the sky...

Nobody knows where you are,
How near or how far.
Shine on you crazy diamond.
Pile on many more layers
and I'll be joining you there...

Roger Waters

[from the Pink Floyd song "Shine on You Crazy Diamond" on the *Wish You Were Here* LP which seems to describe a celebrity whose day has passed using the image of a white dwarf star]

Niagara Centre Spring Banquet

On April 27, 1996, the Niagara Centre will be holding its annual Spring Banquet at the Skylon Tower in Niagara Falls. This event will consist of a deluxe buffet, guest speaker, and reports from the member groups of the Niagara Frontier Council of Astronomical Associations.

This year, we are fortunate to have Mr. Terence Dickinson as our guest speaker. Terence is well known in the astronomical community for his support for popularizing astronomy at conventions and in the media.

Please find enclosed a banquet information flyer.

We hope to have the pleasure of the attendance of Buffalo Astronomical Association members at our Spring Banquet.

Sincerely,

Ron Gasbarini, RASC

THE ROYAL ASTRONOMICAL SOCIETY
OF CANADA - NIAGARA CENTRE
proudly presents

TERENCE DICKINSON:
A GALACTIC ODYSSEY

at the Skylon Tower
Niagara Falls, Canada
Saturday, April 27, 1996

"Terence Dickinson has been captivated by the mystery and majesty of the night sky since childhood. He is a former editor of *Astronomy* magazine and is the author of twelve astronomy books. He teaches astronomy part time at St. Lawrence College, Kingston, Ontario and writes a weekly astronomy column for the *Toronto Star*, Canada's largest newspaper. In honour of his contributions to popularizing astronomy, one of the asteroids in the asteroid belt between Mars and Jupiter was officially named "Dickinson" in 1994 and, in 1995, he was appointed a Member of the Order of Canada."

- *Astronomy* calendar, 1996

Terry appears biweekly on @discovery.ca (7:00 and 11:00 PM on the Discovery Channel, cable 44). Copies of his books will be available for sale after his talk.

Summit Suite dining room open from	6:00 PM
1996 Niagara Centre Annual Banquet (deluxe buffet)	7:00 PM
Terry Dickinson's speech	8:30 PM
Part I	Hubble updates
Part II	Amateur pictures taken from Los Campanas observatory in Chile, under superb conditions, and from southeast Arizona.

Dinner and talk: \$35.00, Canadian Talk only: \$5.00

Tickets include parking and admission to the Skylon tower. Seating is limited - reserve early.

RASC - Niagara Centre
P.O. Box 241
Niagara Falls, Ontario
L2E 6T3

Ed. note: Terence is an top notch speaker and a Skylon dinner isn't a bad experience either.

The Changing Role of Amateur Astronomy

[From *Via Stellaris*, October 1995, page 4, published by the VonBraun Astronomical Society.]

As the information age becomes more a reality every day, we may all find ourselves reinventing our professions or hobbies to keep up with the ever changing technological world. What is cutting edge now is obsolete in a couple of years and the trend seems to be getting worse (or better?). According to recent studies, the amount of human knowledge doubles in about six months and this time of doubling is shrinking. How can we all keep up? And - of more importance to us - what does this mean for amateur astronomy?

I recently read in *Sky & Telescope* that, in about five years, all the astronomy software for your computer will be able to "show everything you can see in a modern observatory telescope as you would see it through that telescope, with near-photographic quality." (*Sky & Telescope*, August, 1995, page 58) The article goes on to state that: "If you don't personally own a copy of the software you'll be able to view its output through an online-service provider." What does this mean then for the casual observer? Is casual observing destined to go the way of the dodo and vacuum tube? Are telescopes going to be replaced with computer terminals, mindlessly spewing out one astronomy fact, image, or anecdote after another in perfect succession?

What joy is there in that?

Well, perhaps there is joy in it if you enjoy keeping your fingers warm, staying inside typing on your keyboard rather than going out into the cold of winter handling freezing eyepieces in order to get fantastic views of the glittering winter sky. There would be joy in it for you if you opt for air conditioned indoor coolness in the summer and choose not to endure the steamy heat, the insect feeding frenzy, or the dew just for a few choice glimpses of M57. If you fit into this category, well I'm sorry, but you just aren't a true OBSERVER!

Learning astronomy by using a computer is great, but you haven't lived until you can master your instrument (a telescope) and can find celestial objects for yourself. The information age will bring greater accessibility to information on astronomy and perhaps may bring even greater sharing of this information, but we must all be cautious of becoming couch potato astronomers.

We must be wary of letting the true nature of our hobby slip away. This trend toward relying on mechanization for all our information is reminiscent of Jack Williamson's classic science fiction novel, *The Humanoids*, in which humans essentially machine themselves into a corner by creating machines and robots to do everything for them. In this story, humanity doesn't realize, until it is too late, that by continuing to do this they rob themselves of the challenges essential for the growth and health of human society.

Similarly, our hobby will be diminished if we allow ourselves to be duped into thinking that viewing on our computers is the same as letting the actual photons from a celestial object bounce off the back of our retinas. The sky is too precious a resource to go wasted and imitated by artificial means. It is never the same twice. No matter how much animation, graphics, and randomization we put into a program, we'll never match the excitement of viewing an actual comet impact on Jupiter, seeing a real meteor shower, watching a newly discovered comet, or seeing a supernova for the very first time. These moments are part of human discovery and define who and what we are.

I recall reading an interview with John Dobson in which he stated that, "It's the hallmark of our species to constantly wonder

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Page 9 is courtesy of Tom Bemus, BAA member and Marts club newsletter editor.

Important Dates In Space History

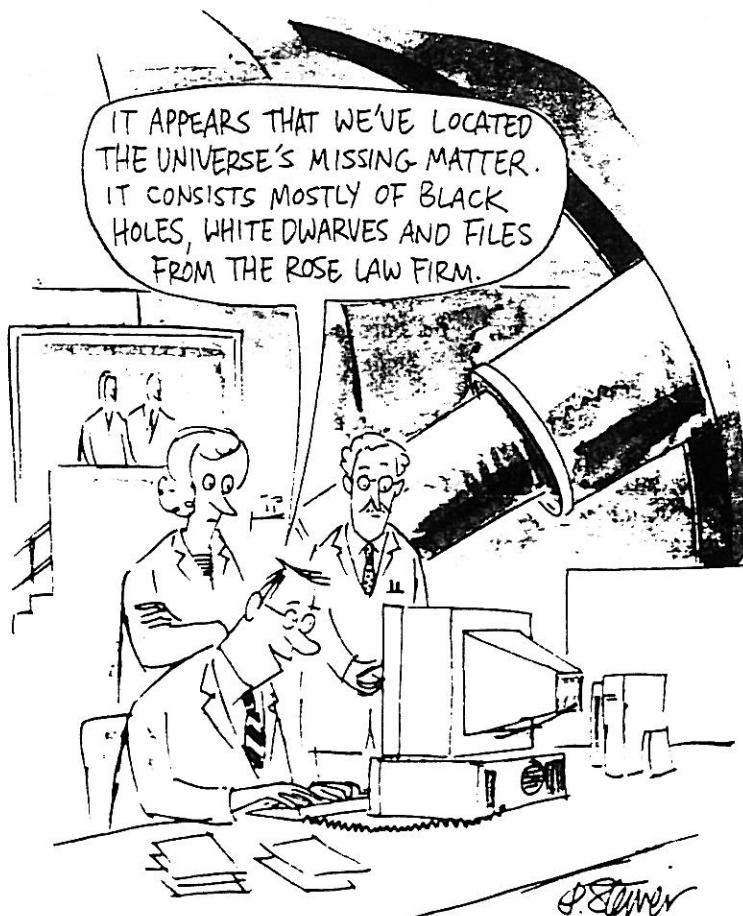
1982: Mar. 1, USSR Venera 13 returns first color photos of Venus' surface
 1969: Mar. 3, Apollo 9 launched, first flight of Apollo lunar module
 1979: Mar. 5, Voyager 1 flies by Jupiter
 1986: Mar. 6, Vega 1 flies by Halley's Comet
 1977: Mar. 8, Rings of Uranus discovered
 1781: Mar. 13, William Herschel discovers Uranus
 1879: Mar. 14, Albert Einstein born
 1926: Mar. 16, Robert Goddard launches first successful liquid fuel rocket
 1965: Mar. 18, Alexei Leonov makes first-ever space walk
 1840: Mar. 23, First photograph taken of astronomical object, the Moon
 1655: Mar. 25, Christiaan Huygens discovers Saturn's largest moon, Titan
 1974: Mar. 29, Mariner 10 first craft to fly by Mercury

DID YOU KNOW?

The MMMAA now has a special packet of information especially for novice stargazers. The packet includes: an Edmund Star and Planet Locator, a 1996 astronomical events calendar, a 1996 MMMAA schedule, enough ruby-colored plastic to make at least two astronomers two flashlights, various articles of interest to beginners, a how-to-buy-a-telescope guide and much more. It is being sold for only \$5 and can also include a copy of the excellent astronomy program, Skyglobe 3.5 (for PC compatibles) for only \$1 more. If you would like one of these packets contact Tom Bemus at a meeting or public night.

Astro Humor

This bit of fun politically-incorrect astro fun was sent to us by Dr. Ron Kohl, this very funny cartoon comes from The Weekly Standard.



A Really Great Computer Astronomy Program For Under \$15 !

by: Tom Bemus

I have been using computers for quite a while now and I've seen all sorts of new astronomy programs come and go. And frankly, I'd much rather be out with my telescope than be hacking around on my computer. So it takes a lot to impress me when it comes to astronomy on my computer screen.

In order for a program to get me really excited it has to be not only fun and interesting, but also really useful. When it comes to astro-computing, I fully expect useful information to quickly and easily appear without needing a 120-Mhz Pentium computer with 16 megabytes of RAM and I expect it to be CHEAP!

Up till now only two programs I have tried have managed to stay on my hard disk. One is The Sky, a useful, accurate, versatile program, that although not cheap, does offer some of the best print-outs anywhere. The other is the fabulous little program Skyglobe. This has, till now, in my book been the undisputed value in software and judging by its ongoing top ranking in the shareware ratings (despite it being a DOS program) I'd guess I'm not alone in my opinion of this fine, compact, speedy program.

Well now I have a third to add to my list, it is Orbits 3.0. This program is available at Office Max for under \$15 and is the best reason I've seen to get a CD ROM drive. I'd describe all the neat features of this powerhouse program, but it would take the whole newsletter. Suffice it to say that it is fun for the whole family (REALLY, I'M NOT KIDDING) and is a rare combination of useful, speedy and cheap! If there is anything you want to know about the solar system, it is probably on this CD. You simply won't believe what a really well written program can do with just 640K of RAM and DOS, it doesn't even need Windows! Put simply, I'd say that this program ties Skyglobe for my best ever award, DON'T MISS IT!

The Changing Role ... continued from page 8

what is going on?" He also made it clear that a person who doesn't wonder is essentially dead. He portrays what it means to be an observer and a wonderer and a human being. By observing we begin to ask questions, begin to wonder, begin to look for answers, begin to experiment, begin to fathom the possibilities that define the universe and its laws, and we begin to know ourselves.

We must continue to observe and continue to look for new challenges. It is easy for us to get drawn into the Internet world of astronomy and think that we are not really missing anything - well we are.

Take a look at the real sky and see how well your computer compares? Does it really give you that sense of belonging, and knowing that the light you are seeing took hundreds, thousands, or even millions of years to travel just to your eye? Do you feel at one with nature while in front of your monitor? Do you have a viewing list for your computer? Can your computer inspire dreams, make you wonder? Perhaps, but your sky image at home is still only an imitation, a facsimile, the virtual reality of what you are truly looking for. A computer program or information access are great educational tools for astronomy, but spend some time with the real thing - you'll be glad you did, and the rewards will be worth the extra

effort needed. What price is happiness? Hopefully only a trip outdoors and a glance up

Clear skies

Tim Perry

**ALERT!! -- Special member's night**

Messier marathon on March 23 at Beaver Meadow.

Please call Dan (773-5015) for details/raindate.

Comet Hyakutake will be well placed for viewing and near maximum brightness.

== A "Don't miss" event! ==

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President's message
COMET HYAKUTAKE
Member's night at Beaver Meadow
- 2 Membership corner
BAA Annals
- 3 Mission to a Comet
Spy and Tell

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SPECIAL MEMBER'S NIGHT @ BEAVER MEADOW - MESSIER MARATHON & BIG COMET!!!

The SPECTRUM

BUFFALO ASTRONOMICAL ASSOCIATION, INC.

Beverly Orzechowski, Circulation
125 Roycroft Blvd.
Buffalo, NY 14226

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BEAVER MEADOW - MESSIER
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MAR 23 -- DETAILS ON PG 1

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