



# THE SPECTRUM

NEWSLETTER OF THE BUFFALO ASTRONOMICAL ASSOCIATION, INC.

## MEETINGS NOTICE

FRIDAYS: NOV 10, DEC 8

### November 10th: "The Light Pollution Problem and What Can Be Done About It"

Light pollution has increased dramatically over the past decade and has almost made observing from urban locations a thing of the past. However, there are things which astronomers both professional and amateur can do to correct this problem. Our speaker Tom Bemus will shed some light on this problem and its solutions.

### December 8th: "Beware of the BAA Candid Camera"

The December presentation will focus on Edith Geiger's snapshots of BAA members doing their thing over the past year. In addition, Terry Farrell is working on scheduling a short planetarium presentation on the winter skies. Also, we will have our annual Christmas party. Goodies welcome!

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!

**March 8, 1996: ANNUAL DINNER MEETING** - Please mark your calendars for the evening of March 8, 1996. Our dinner meeting will be held on this date at Ilio DiPaolo's Restaurant in Blasdell, NY. More details will be published in the next SPECTRUM and at the monthly meetings prior to the event. If you have any ideas or would like to help with this event please call Terry Farrell (716-826-3738).

## PRESIDENT'S MESSAGE

Recently, Bill Smith received a copy of the membership packet which is offered to members of the Rose City Astronomers Portland, Oregon. Bill has shared with me this information and after carefully reviewing it, I was impressed with a letter which was written by Jim Girard (President). His letter describes amateur astronomy from its humble beginnings to its popularity today. I would like to share this letter with all members of the BAA as the topic for my column this month.

Terry Farrell

Terry Farrell

increasingly larger aperture telescopes available for studying the night sky. Where the 6" f/8 telescope used to be the norm, now it is a 10", 12", 20", or even larger instrument frequently found at local star parties.

The advancements, availability and affordability of commercial instruments of the last forty years or so, in particular the advent of the very portable Schmidt-Cassegrain (Celestron and Meade), coupled with the recent marriage of computers, CCDs (charge coupled devices), and the modern telescope, has led to opportunities for amateur work not even dreamed of by the professionals of twenty-five or thirty years ago.

The possibilities seem limitless for today's amateurs. We can be the ultimate celestial tourist, tracking down deep sky splendors with ease, aided by large aperture and computer generated charts. With modern films, we can take photos comparable to the efforts of the largest instruments of only a few years ago. For the tinkers and builders among us, there are a wealth of projects and gadgets to choose from to try to fabricate, often carrying over the skills acquired in other professions. For the theoretician and the cosmologist, there are hours of endless debate and speculation. The scientists among us can follow the light curves of distant suns or chart the movements of double stars over a lifetime of observing, adding valuable information to an ever growing body of data. As individuals, we seek the camaraderie and aid of those of like mind and interests. As a club we try to make these and other activities a possibility for our members, both those who are new to this field as well as to the seasoned observer.

But the one thread that runs throughout everyone's interest, I think, is the overwhelming awe generated in all of us by the reality of what's out there. It's impossible to stand on a mountain top or a

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## ROSE CITY ASTRONOMERS

*"The best thing we're put here  
for's to see;  
The strongest thing that's  
given us to see with's  
A telescope. Someone in every town  
Seems to me, owes it to the town  
to keep one."*

-Robert Frost, "The Star Splitter"

Amateur astronomy has come long way since the earlier years of Robert Frost. What used to be the sole province of the wealthy and privileged few has now become a more universally available pursuit. With the revolution in amateur telescope making begun by Russell Porter and Albert Ingalls in early SCIENTIFIC AMERICAN articles during the '20s, and further advanced by the Dobsonian revolution of the late '70s, we have had

## 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.

## REPRODUCTION NOTICE

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

## MEMBERSHIP CORNER

I am happy to report that the BAA membership is booming. I don't know whether it's because the club is doing a better job of getting its message out to the public or whether it's because people interested in astronomy are more active in seeking out others of their own kind. In either case, I am happy to report that eight new members have been added to the rolls of the BAA in the past two months. Their names, addresses and phone numbers follow:

Antonio Cirillo	88 Custer St	Buffalo, NY 14214	838-3961
Carol & Neil Dennis	7940 Cadwell Rd	Bliss, NY 14024	322-7596
Tim Finucane	5928 Broadway	Lancaster, NY 14086	685-3567
Joseph Gervase	72 Highland Ave.	Hamburg, NY 14075	649-8155
Gary Hanley	6355 Vermont Hill Rd	South Wales, NY 14139	652-9168
Christian Lombardo	88 Custer St.	Buffalo, NY 14214	838-3961
Maryanne & Tom Kowalski	31 Pasadena Pl.	Williamsville, NY 14221	632-7031
Joe Sullivan	293 Burch Ave	West Seneca, NY 14210	823-8371

Antonio Cirillo and Christian Lombardo are both University of Buffalo students with a wide range of astronomical interests. Christian was the first to develop an interest in astronomy but his interest eventually began to wane a bit. He later met Antonio and introduced him to the hobby. Antonio has since become an avid observer and astrophotographer. In fact, he recently took some photos of the Moon to satisfy a requirement for an art class he's taking. Antonio's astronomical interests seem to have lured Christian back at least sufficiently to join the BAA.

The Dennis' tell me their interest in astronomy began just this past summer and after a couple of visits to our observatory they decided to buy an 8" SCT. Using books borrowed from their local library, Carol and Neil have already become quite adept at finding their way around the sky, picking up several nebulae and galaxies in the dark skies over Bliss.

The annual listing of clubs in Astronomy magazine led Tim Finucane to the BAA. Tim has been stargazing for about 10 years now but says he hopes to learn even more from other BAA members. He's interested in the equipment available at the observatory and may even be willing to help out during public nights once he becomes familiar with the procedures.

Joe Gervase, the owner of a Meade SCT, has gotten right into the swing of things, joining us out at Beaver Meadow and attending our meetings at Buff State. Joe's interests include computers and wood working, two skills which are very much appreciated by Dan and Bob out at the observatory. Now that the word is out, Joe, don't be surprised if they ask you to demonstrate those skills.

Since Gary Hanley lives just a short distance from the Beaver Meadow Observatory, he has been out to visit us often on public nights. In fact, he

Joe Orzechowski

has vivid recollections of talking to Bill Smith and getting a look through Bill's giant binos. All that stargazing at the observatory eventually rubbed off and Gary's now using his own binoculars to observe from his home in South Wales. He's interested in acquiring a telescope so, if anyone out there knows of a good deal, give Gary a call at the number listed above.

The Kowalskis joined the BAA after finding us in Sky & Telescope's annual listing of astronomy clubs. They've been using a 60mm refractor for 4 years now, primarily from their backyard. Tom mentioned that he's interested in getting a look through some other scopes to see how different apertures and different eyepieces affect what he sees. Well, Tom, just come out to the observatory a few times and you'll eventually get a chance to look through everything from binoculars to the club's 20".

Joe Sullivan does not yet own his own scope but has visited the observatory to take advantage of the club's scopes. Joe has many astronomical interests ranging from auroras and meteors to galaxies and cosmology. This will make it easy for Joe to find other members who share an interest with him but it also will challenge the BAA to

keep Joe's interests satisfied. I hope that we can meet that challenge.

I'd like to take this opportunity to extend a BAA welcome to all our new members and to invite them to give me a call at any time with questions about the BAA or about astronomy in general (632-7091 days or 839-9109 evenings). I'll do my best to get you an answer.

I would also like to remind our current members that it is time to renew

## Have you renewed your dues?

your membership. Dues are still \$10 for students and seniors, \$15 for individuals and \$20 for family memberships. You may mail your renewals to me at 125 Roycroft Blvd, Amherst NY 14226 or renew in person at an upcoming meeting.

On another subject, I've been asked to include e-mail addresses in the BAA's annual Membership Directory. So, anyone with an e-mail address may submit it to me and I will add it to their entry in the membership database. When I get enough submissions, I will modify the membership directory format to include e-mail addresses. You can get your e-mail addresses to me using the address or phone numbers listed above (sorry, no e-mail). Here's hoping that everyone enjoys all of the upcoming holidays including Halloween, Veterans' Day, Thanksgiving, Hanukkah, Christmas, Boxing Day and, of course, the end of Daylight Savings Time.

## MEMBERSHIP SERVICES

To renew, join, or for address changes or questions call or write:

Joe Orzechowski, 125 Roycroft Blvd., Buffalo, NY 14226  
(716) 839-9109

## TREASURER'S NOTES

Steve Kramer

MAGAZINE SUBSCRIPTIONS are overdue for those who have not yet paid.

RASC Observer's Handbooks all sold at the last meeting.

Make checks payable to the B.A.A.

## BAA ANNALS

Rowland A. Rupp

**5 YEARS AGO** - Our speaker for the November 1990 meeting was Larry Carlino. His topic, "Observing Mars", covered the history of observing the planet as well as modern techniques. In December, we heard from another BAA member, Bob Hughes. Bob's topic was "Observing Geomagnetic Systems". Of course, Edith Geiger did her "Candid Camera", and Joe Provato organized the Christmas party that followed.

The SPECTRUM featured an Instrument Report by Ed Lindberg on the reflecting telescope. Ed gave a brief summary of the history of its development, and described some of the common methods of testing its mirror. A large part of this SPECTRUM was devoted to an article written in 1967 by former member Ray Manners, entitled "Visual Meteor Observation for Amateurs". It was originally written for presentation at the 1967 Annual Convention Northeast Region of the Astronomical

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### Officers

Terry Farrell - President  
Bob Hughes - Vice President  
Lynn Sigurdson - Secretary  
Steve Kramer - Treasurer

### Board members at large

Joe Drabek - Joe Orzechowski - Bill Smith  
Rowland Rupp - Fellow Representative  
Dr. Jack Mack - Museum Representative  
Joe Orzechowski - Membership

### Observatory Directors

Dan Marcus & Bob Titran

### SPECTRUM STAFF

Bill Smith - Editor / Layout  
Bev Orzechowski - Circulation

## IN MEMORIAM

Joseph Salvatore Provato  
1945 - 1995

It is belatedly and with regret that I wish to announce the passing after a long illness of BAA member Joe Provato earlier this year. He was 50.

Joe was born in New York City where he later attended local schools and Business School. He moved to Buffalo in 1968. Although he never went to College Joe made his way in the business world as an accountant. He earned diplomas in computer science and in interior decoration from the Bryant and Stratton and John Robert Powers Schools respectively.

Joe was interested in Lunar and Planetary astronomy. He was a keen collector of antique china and glass, a good photographer and an excellent gourmet cook.

He enjoyed many trips to England with Fred Price and came to love the country. It was during such a trip last Christmas and New Year that Joe's illness worsened and he had to be hospitalized on January 26th this year. He died on February 21st and was buried in Greenford Cemetery near Fred Price's home outside London. This was Joe's wish.

He is survived by his mother, sisters Carol and Valerie, brother-in-law Tom (Carol's husband) and nephew Tommy.

We will all miss Joe's friendly presence at BAA meetings and his wine and cheese parties at the Christmas meetings.

F. W. Price



## EDITOR'S NOTE

Bill Smith

## Newsletter changes

A few "adjustments" have taken place in this issue:

- Larger, better xeroxable font
- No gray toned boxes
- Buffalo State map added to locate our meeting site
- New copy shop for xeroxing

BUT something is still missing --

## WANTED

Your submissions of...

articles  
artwork  
book reviews  
CCD images  
comics  
equipment reviews  
for sale items  
observations  
photographs

poetry  
quotes  
  
*plus*  
  
comments  
suggestions

YOU CAN DO IT!

## SPECTRUM DEADLINE

The deadline for the January-February issue is

**December 8th.**

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

## SPY AND TELL

Edith L. Giger

Congratulations to Ken Biggie, who is now Principal/Headmaster of Archbishop Walsh High School in Olean, an independent Catholic school, and the only private high school in the Southern Tier. As Olean is not too far from Buffalo, we hope Ken will continue to be a part of the BAA, and that he and Diane will be able to attend many of our meetings. Ken's present address is: 208 North 24th Street, Olean, NY 14760.

Fred Price went to England last August, and plans to return to Buffalo at the end of October. He is selling the house in which he and Joe Provato lived, and has many other things that need his attention. Eventually he plans to go back to his homeland. Fred has made many friends since he arrived from England with a cancer research team in 1963, and is a valued member of the BAA. We wish him the very best and trust that he will keep in touch.

On August 25, Ernst Both was seen on television, enlightening viewers concerning the bolide from the Perseid Meteor Shower that flashed across the sky over a 400 mile area from Michigan to New York State.

Gene Witkowski, who was in attendance at Starfest '95 in North Forest, Ontario, was in his tent at the time the bolide passed overhead, but he saw its reflection on the inside of his tent.

On August 28, an article appeared in The Buffalo News on Robert and Richard Catapovic, sons of former BAA member, Miro Catapovic. They are very successful prosthetic orthotic specialists, and own Tonawanda Limb and Brace Company. Their father, who founded the company, is still its chief executive.

On Sunday afternoon, September 17, Elaine Knecht was the leader for Peter and the Wolf: a Music and Craft Event for Children, held at Borders Book and Music, on Walden Avenue in Cheektowaga.

Dave and Cathy Sepulveda are very busy these days with Dave being Scoutmaster for Pack 185 at St. Joseph's Roman Catholic Church in North Tonawanda, and Cathy working as chairperson for the Fund Raiser for Drake School. The Sepulveda's trip to Cape Cod in August became a horrendous event. They decided to drive at night because it would be easier on the children: Adam 10, Brianna 4, and Evan 8 months.

To start things off, they had a flat tire a half hour after leaving home, and ended up having to buy a new tire. While in Cape Cod, Brianna had to be rushed to the hospital emergency room with an asthma attack, and Evan was taken to the hospital suffering from pneumonia and a double ear infection. There were some pleasant times, however, at the Cape. Returning home proved to be a 31 hour fiasco. Two fan belts in the car broke, as well as the water pump, and the car overheated, necessitating camping in a Burger King picnic area outside of Albany. Luckily, they had camping equipment with them. Cathy's brother-in-law, Matt, who lives outside of Syracuse, drove 3 hours to pick up the weary travelers and take them home. In November, wedding bells are ringing for Dave's sister, Sarah. Dave and Brianna are to be in the wedding party. Hope the trip to this lovely event will be better than the last trip to the Cape.

## OBSERVING TIP

On Magnification: Good rule of thumb is to use only as much magnification as needed to see what you are interested in looking at. This minimizes smallness of field, effects of seeing and collimation error effects. Practice using a lower power to train your eye.

## WANTED:

6" or 8" Newtonian tube assembly & Dobsonian or equatorial mounting.

Call Rowland Rupp at 839-1842.

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

Full	Last Qtr	New	1st Qtr	Full	Last Qtr	New	1st Qtr
Nov 7	Nov 15	Nov 22	Nov 29	Dec 6	Dec 15	Dec 21	Dec 28

**REMEMBER:** For after-midnight event dates: 1 am on Jan 10 means you must be up late on the 9th.

Date	Time	Elevation	Direction	Evening events left aligned	Event description	Morning events right aligned
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**Astronomical Events In November:** The Milky Way is directly overhead on November evenings. Watch how the Jupiter, Venus and Mars come together and spread apart from Nov 12-25.

2	6:00pm	32°	SE	Saturn 5° below the Moon
10-25	5:25pm	10°	SW	Watch the positions of Jupiter, Venus and Mars - use binos
10	7:30pm			MEETING of the BAA
11 & 12	daytime	solar views		Beaver Meadow Open House Observatory open Sat: 1-5 & Sun 1-5
15	5:45pm	5°	SW	Mars is 1.2° below Jupiter
18-19	5:15pm	7°	SW	Very pretty conjunction of Venus, Jupiter and Mars - use binos.
18	★ ★			Good conditions for Leonid meteor shower
22	5:10pm	8°	SW	Venus is only 0.5° from Mars
23	5:10pm	8°	SW	Thin Moon joins Venus, Jupiter, and Mars - use binos Mars 1° right of Venus.

Try to watch Saturn a lot this month as the the Sun's angle changes relative to the rings. We see the sunlit side until Nov 19 and then the dark side as the Sun illuminates the side we cannot see.

Check Sky & Tel, May 1995, p 68 or Astronomy, June 1995, p70 for details.

**Astronomical Events In December:** While not a great year for meteors, the Geminids this month on the 14th) are unobstructed by moonlight till 1 am. Venus will be becoming more prominent in the evening sky.

8	7:30pm			MEETING of the BAA
14	★ ★			Fair conditions for Geminid meteors; best after midnight.
14	5:40pm	10°	SW	Bluish Neptune 3° above Venus - binos req'd
19	5:40pm	11°	SW	Faint Uranus is 1½° above Venus - binos req'd Globular cluster M75 (faint misty patch) between them - 10x50 bino minimum
23	5:15pm	16°	SW	Wide grouping of Venus, Moon and Mars & Mercury (5° - very low). Mars is 1.3° up and right of brighter Mercury.
23	★ ★			Very good conditions for Ursid meteor shower.
30	5:15pm	10°	SW	Faint Uranus is 2° above Mars; M75 between them; Mars is 4.5° below and right from Mercury; Neptune 2° above Mars.

Geminid meteors are pretty good before midnight which is before Moonrise.

Also check for comet Honda-Mrkos-Pajdusakova in the second half of Dec. See Sky & Tel and Astronomy for details.

Venus very close to the comet on the 24th.

## BEAVER MEADOW OBSERVATORY 457-3104

Bob Titan and I have volunteered to be co-directors again for the 1996 season. We will be maintaining the philosophy of having public activities rain or shine. Bob will have the usual sign up sheet for public events. To do this we need everyone's help with public nights and weekend Observatory events since it takes at least 2 people to run public night. As usual I have volunteered to schedule star parties again this year, so if you are interested in having one anytime next year please see Dan Marcus (716-773-5015). Hey how about another early morning breakfast to view comet Hale-Bopp!!!! Remember how much fun the last one was!!

**To sum up all the happenings for the last year:** The 12" mount was refurbished by Martin Price, in exchange for a photo finish circuit that Rowland Rupp made up for a 3 lane pinewood derby race track for Marty's Boy Scout Troop. Both Rowland and Marty spent many hours on construction of both projects and deserve a great deal of credit. The 12" mount is back in service and is in tip top mechanical condition. The right ascension drive has a slight periodic error still left, but it currently suffers more from not being perfectly polar aligned. We now have a computer program that will add images and allow us to image process.

**Things that still need to be done:** The wiring to the 12" mount needs a GFI outlet, and several outlets in the Observatory still need to be repaired. The Computers need to be reorganized and the 386SX needs a new hard drive as the one it currently has doesn't always startup! The wall phone in the old warming room has lots of static.

**Currently in progress:** A meeting was held on October 21 to decide what we need to get to make the Observatory more usable, and how to acquire the needed equipment.

**Wish List:** Someone to make a poncet type mount for the 20" to make public nights more fun. The Stair Master routine (as it has been called) will only get worse as comet Hale-Bopp gets bigger. We could use someone with some woodworking skills to help us. I can get the metal parts

fabricated, the club just needs someone to spearhead the project.

**CCD:** Dan Marcus will be giving CCD classes this winter at the Observatory starting in January. The classes will be on the 3rd Saturday of the months of Jan, Feb, March. If enough people sign up for public nights Dan will be available to keep up with one class per month.

**Comet Hale-Bopp:** The club should have a nice photographic record of this comet!!! We have the CCD camera and a great photographic mount for standard photography. Contact Dan Marcus if you are interested in this project.

To sum it all up we should be having lots of public interest as comet Hale-Bopp starts getting in the news, and the interest should be peaked by us before Christmas '96 as the comet starts to become visible to the general public.

**ATTENTION OBSERVATORY USERS:** The CCD camera will be having some work done on it some time in Oct/Nov/Dec. So if you wish to use the camera, call Dan first to ascertain its status.

I loaned my CCD Cookbook camera book to a club member, and I have forgotten who I loaned it to - if you have it please let me know! Thanks!!

Dan Marcus

The hazy, dewy, buggy nights of summer have given way to the cool, brisk and occasionally clear nights of autumn. While it's still early in the fall season, we've already had 2 very successful public events at the Observatory, and we're planning for even more.

The September 16th Public Night began as many others this year have - somewhat overcast with Mother Nature undecided whether the sky should clear up or cloud over. A handful of volunteers and

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## OBSERVING REPORT

Recently Dan and Melissa Marcus, Laurie and I took a quick midweek trip to Beaver Meadow Observatory to view comet Hale-Bopp. The comet was a smudge barely visible through the 20" telescope. Some late evening haze may have obscured our view, as the comet is currently located near the horizon in the constellation Sagittarius. While unimpressive now, this is the comet that was featured on the cover of the November *Sky and Telescope*. Some predict that the comet, which will be at it's finest in the spring of 1997, will be the best comet in 20 years. Some say it may be the brightest comet since 1811! Guess we'll have to wait and see.

On the evening of September 29, following a visit by several local Brownie troops, a bright meteor was seen from Beaver Meadow. At about 9:33 p.m. a bright green light casting flickering shadows appeared nearly overhead. It lasted long enough for Don Knecht, Dan Marcus and I to turn and see it fizzle out about 20 degrees over the western horizon. The meteor was much brighter than Venus, more comparable to a nearly full moon.

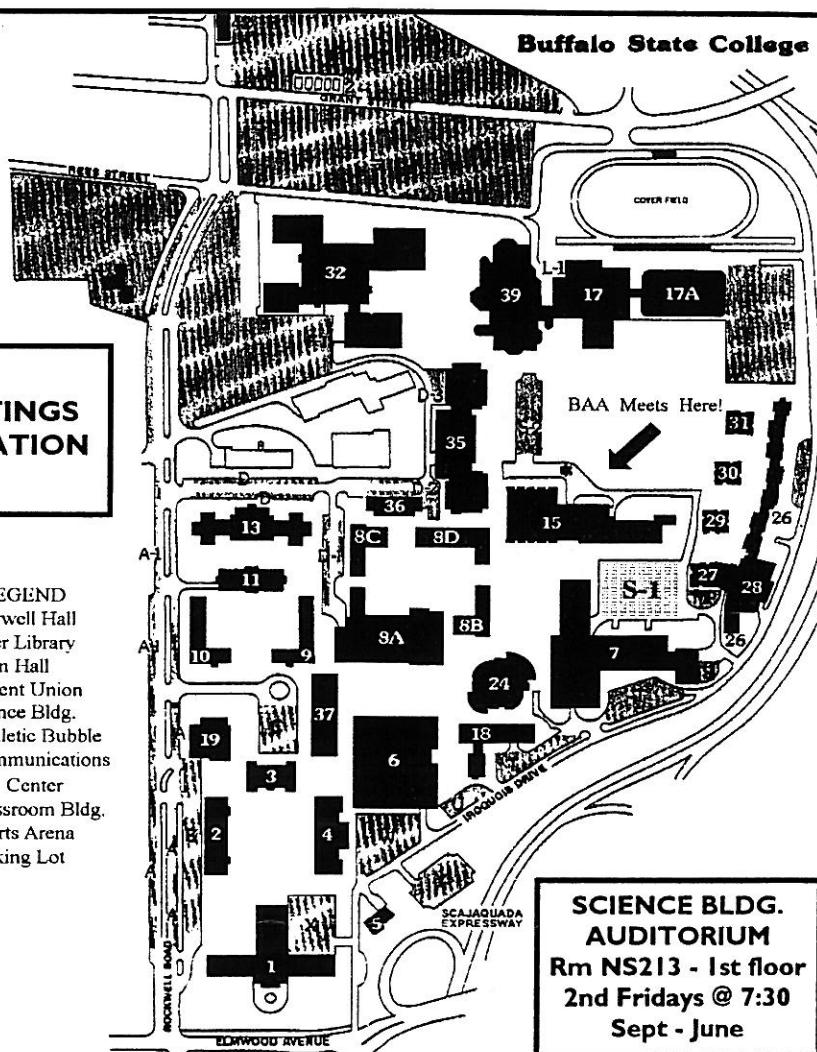
On the morning of October 1, Joe Orzechowski, Dan Marcus and I took a 4 a.m. joy-ride to Beaver Meadow to do a little more comet hunting. Two comets, comet de Vico and comet Bradfield, were visible in the constellation Leo. de Vico was impressive, with a bright core and a narrow, jet-like tail that could be followed for 2 degrees. This comet is near naked-eye visibility and should be an easy binocular object - well worth getting up a little early for. Comet Bradfield was easily found but not as impressive nor as detailed as de Vico. We were viewing Bradfield in twilight, so perhaps we should be impressed that we saw anything at all. Since it's in the same neighborhood as de Vico, it's worth hunting down if you already happen to be up early.

Bob Titran

### BAA MEETINGS LOCATION MAP

#### MAP LEGEND

- 1. Rockwell Hall
- 6. Butler Library
- 7. Upton Hall
- 8A. Student Union
- 15. Science Bldg.
- 17A. Athletic Bubble
- 24. Communications Center
- 35. Classroom Bldg.
- 39. Sports Arena
- S-1. Parking Lot



**SCIENCE BLDG.  
AUDITORIUM**  
Rm NS213 - 1st floor  
2nd Fridays @ 7:30  
Sept - June

## WORKSHOP ON BEGINNING BACKYARD ASTRONOMY

Coming to  
Beaver Meadow Observatory

On the weekend of **November 11-12** we'll be holding a workshop on getting started in amateur astronomy. Club members will present a series of four half-hour lectures introducing newcomers to the hobby. Our schedule is as follows:

- |      |  |
|------|--|
| 1:00 | Astronomy on a Budget                  |
| 2:00 | Choosing Telescopes and Binoculars     |
| 3:00 | Astronomy Books and Star Charts        |
| 4:00 | Viewing the Sky with a Small Telescope |

Our scheduled presenters include Terry Farrell, Bruce Newman, Richard Jones, Joe Orzechowski and Bill Smith. The workshop is being held at the Beaver Meadow Observatory in conjunction with our weekend open house, and the lecture series will be presented both Saturday and Sunday.

Want to help? We need people willing to discuss our hobby with visitors, answer questions about astronomy, and promote the BAA. We also need help promoting this event. Make up a flyer and put it up around town, or send a note to your Internet pen pals. If you've got some equipment you'd like to set up and display for visitors, even better! Give Bob Titran a call if you need more info or would like to get involved.

Bob Titran

### HELP!!

## COMET SCHWASSMANN-WACHMANN 3 BRIGHTENS DRAMATICALLY

After a notice was posted on America Online about this comet which was predicted to be mag 12 but had now burst to mag 6.5 - well, we just had to have a look! On Oct 24th, Tom Bemus, Dave Hecei and I used a 4.5" Astroscan and 16x80 binos to look for this comet which was 2 deg east of M62 in a very low Scorpius as soon as possible after sunset. Only by using M7 and M6 as guides were we able to find it as a pale oval smudge in the binos. Just how low was it? Well Antares had already set. Confirmation was by matching star patterns with star charts.

Comets de Vito, Bradford and Hale-Bopp were more impressive - try them first. This periodic comet has a period of 5.34 years and this is my first sighting of this often dim and elusive comet.

Bill Smith

## PERSEID METEORS SPOTTED

On Saturday August 12th Laune and I observed the Perseid shower from our Grand Island backyard. Eight meteors, including seven Perseids and one sporadic, were seen between 9:00 and 10:30 PM. One Perseid and the sporadic were exceptionally bright, easily outshining Jupiter. Both of these meteors covered nearly 40 degrees of sky, and the Perseid left a trail visible for nearly 30 seconds. Six satellites were also seen.

Bob Titran

## EXERCISE YOUR PLANETARIUM PROGRAM

Planetarium programs are wonderful. You can "view" the sky from any time or place, independent of the weather! The programs allow zooming, and often give you information on individual objects. You can see where deep sky objects like open clusters and galaxies lie - some programs offer the benefit of magnitude cutoff so, for instance, only those objects visible in small scopes or under light polluted conditions may be plotted. Finding interesting planetary conjunctions; demonstrating eclipses and retrograde motion; plotting orbits of planets, asteroids or comets; and printing sky maps are other uses.

Options such as the choice of displaying constellation, star and object names; constellation lines; grid lines and such make many planetarium programs a patient self-guided tutor of the skies. The ability to locate any star, constellation or object by picking from a list and animation ability to "speed up" time can show planetary and lunar motions in an understandable way are common features. Three-dimensional solar system views are available on some programs. Newer ones on CD-ROM enable you to call up the 18 million member Hubble guide star catalog, have hundreds of images and even show video clips.

Sometimes all this capability is overwhelming to the point that few features get used. The program gets relegated to just showing what the sky looks like tonight and where the planets are. However, there are many interesting uses for these programs.

### FREE PROGRAM

The shareware PC program, SKYGLOBE, has been available at the observatory for quite some time. Copies will be available at club meeting (FREE!). The disk also includes a neat image/paint program and some comet Shoemaker-Levy impacts on Jupiter. Another great reason to attend meetings!

There are guides of planetarium programs in:  
Astronomy Magazine's Observer's Guide 1996 (yes 1996), p72  
Sky & Tel, Nov 1995: The Best Software Money Can't Buy, p86  
Sky & Tel also has reviews on specific packages in back issues.

## CONTEMPORARY CONSTELLATIONS

### SLEDUS

Sledus, the Sled, according to Harold P. Stephenson of Pfeiffer College in Misenheimer, North Carolina is a new constellation. It is composed of four stars: Alpha Sledi (Saturn), Beta Sledi (Pollux), Gamma Sledi (Castor) and Delta Sledi (Mars). It appeared in the sky in mid-May of 1976 and of course it has already disappeared because of the moving planets.

Its name would have made it a beautiful and welcome constellation in the winter skies. This constellation should again appear in the year 2436, for anyone who wishes to observe it again.

Darwin Christy

## METEOR SHOWER SPOTLIGHTS

### Andromedes

For November we should observe the Andromedes on the 28th from right ascension 01h 40m and declination +45D. Its duration is very short, lasting but 5 hours maximum. It does produce 4th to 3rd magnitude streaks, irregular in nature and appearing deep orange in color. Perhaps only 3 to 5 might be seen in an hours time but - many more have been observed in that same time period. They are very distinguishable from any sporadic meteors. This shower is believed to be a remnant of the old comet which appeared in 1885 and is perhaps related to the Beilids of the

### WHO-DONE-ITS

A good way to exercise yourself and your program is to look at some historical events that have astronomical aspects to them. There are a group of interesting articles by Don Olson in *Sky & Telescope* magazine with just this history-literature-astronomy connection. It really is fun to get a couple of these articles, read them and simulate just what the sky was like at that time and decipher what role astronomy played. For instance, during D-Day what relationship were the Moon and Earth at for low tide at Normandy? Would Abe Lincoln have gotten his client off of the murder charge if the event occurred on a cloudy night? Were Lincoln's arguments about the Moon's position and timing correct? You decide!

The Tide at Tarawara: November 20, 1942 - A Historically Significant Apogean Neap Tide; Nov 1987, p526

Van Gogh, Two Planets and the Moon; Oct 1988, p406

William Blake and August's Fiery Meteors; Aug 1989, p192

Lincoln and the Almanac Trial; Aug 1990, p184

Columbus, Regiomontanus and the Sky of January 17, 1493; Jan 1991, p81

Pearl Harbor and the Waning Moon; Dec 1991, p651

Paul Revere's Midnight Ride; Apr 1992, p437

Columbus and an Eclipse of the Moon; Oct 1992, p437

August Meteors in the 1860's; Aug 1993, p47

D-Day: June 6, 1944; June 1994, p 84

Dating Ansel Adams's *Moon and Half Dome*; Dec 1994, p82

The Rings of Saturn; May 1995, p92 [Dance of the Planets program or similar best for this one]

The articles are interesting enough but even more so when you dial them up on a planetarium program. Don't forget to change your physical location to fit the article! Send your impressions in to this newsletter as well as other interesting incidents where astronomy has played a part.

Bill Smith



<<< Editor's note: I was going to put a sled image here but that's what those planetarium programs do so well. Try one and see!

## A 'UNIVERSAL' OBSERVATION

*Space is big. Really big. You just won't believe how vastly hugely mind-bogglingly big it is. I mean, you may think it's a long way down the road to the pharmacy, but that's just peanuts to space.*

Douglas Adams  
*Hitchhiker's Guide to the Galaxy*



14th. It would be great to observe to add to the data not recorded.

### Ursids

In December we can observe the well known Ursids appearing out of right ascension 14h 21m and declination +80D. This shower lasts approximately 7 days with maximum on the 22nd. It is an annual shower of short, swift white streaks averaging better than 3rd magnitude. This shower is a result of Comet Tuttle 1939, and needs more data than appears here.

Darwin Christy



## !! HAPPY ANNIVERSARY !!

On October 14th Darwin Christy and his bride Ruth celebrated their 52nd wedding anniversary.



## (G)ASTRONOMICAL RECIPES

### ORION'S (The Hunter's) TERIYAKE CHICKEN WINGS OR LEGS

- 1/4 cup soy sauce
- 2 tablespoons packed brown sugar  
(I like honey in place of sugar)
- 2 tablespoons lemon juice  
(juice from one lemon is enough)
- 1 tablespoon cooking oil  
(I prefer peanut oil)
- 1 tablespoon grated fresh ginger  
(or 1/4 teaspoon ground ginger)
- 1 clove garlic, minced  
(I grate the garlic)
- 3 pounds chicken wings or legs

In a small bowl combine all of the marinade ingredients. When sugar has dissolved, place the chicken in a plastic bag, pour marinade over the chicken and let stand in the refrigerator for 12 hours, turning occasionally. Take chicken from bag, save marinade. Cook chicken on an open grill, directly over coals for 20 minutes. Then turn them over and brush them with the marinade. Continue to cook for another 15 minutes or until chicken is tender. Or--place the chicken and marinade in a baking dish and bake at 400 degrees for about 2 hours or until tender, turning them occasionally. Serve with noodles or rice, using the leftover marinade as a gravy. A good vegetable to serve with this dish is broccoli and cauliflower combined.

### RING NEBULAE (M57) SOUP

- 6 onions cut into ring nebulae  
(1/4 inch thick)
- 6 carrots cut into circles  
(1/4 inch thick)
- 2 cloves garlic chopped
- 4 tablespoons peanut oil
- 4 quarts chicken stock
- 1 quart beef stock
- 2 tablespoons soy sauce
- 1 tablespoon Worcester sauce
- 1 teaspoon pepper
- 1 teaspoon oregano
- 1 teaspoon basil
- 1/2 teaspoon chili powder (optional)

In the oil, saute the onions and garlic until onions are tender or transparent. Cook (steam or water) carrots separately until tender. Add the carrots, chicken stock and beef stock to the ring nebulae, bring to a boil and add the spices.

Darwin Chrsty

## A DIFFERENT KIND OF VISION

It has been said that we had better pay attention to the future as that is where we'll spend the rest of our lives. A vision of the future is essential to individuals, clubs, businesses — groups of all scales. It is the most forceful motivation for change that we have to enrich one's lives. Vision, or good ol' goal setting, is the result of dreams in action. It helps one to succeed against the odds. It enables one to action. We all have dreams of what we'd like to do and where we'd like to be. Interest in your dreams builds confidence and the ability to shape one's future. What is the difference between these dreams and actually fulfilling them? Vision. Having something important to you to do in the future is a strong motivational factor. Naturally there is no guarantee that your goals will be reached, however the power of vision offers a connection to the future as well as acting as a confidential push for us to plunge into new areas.

Visions need to be detailed — not generalized. "I want to observe more" is nice but isn't a vision. "I want to observe the Messier list in the next year" is a vision. Visions need to be positive and inspiring; they need to stretch one's skills and be worth the effort. Visions or goals determine your destination. Having a place to reach makes getting there a lot easier. If you don't know where you are going, how will you start a journey and what will keep you going?

Everyone has the ability to make a difference. Once aware of that ability, the power to shape the future comes from the strength of your visions. Joel Barker said it well, "Vision without action is merely a dream. Action without vision is just passing the time. Vision with action can change the world."

Bill Smith

## HOLIDAY BUYERS ALERT

Looking for a first scope or do you know someone who is? There is a lot of department store junk out there and junk at about any price isn't cheap! Not only do you feel cheated but the experience can turn one off of astronomy but quick!

### REVIEW THIS ARTICLE:

#### Choosing a Low-Cost Telescope; Sky & Tel, Dec 1993

- Use binoculars first - if after 6 months you're still interested in observational astronomy, then go for a scope.
- Know the sky before you buy - what would you look for and how would you expect to find it?
- Don't buy anything advertised by high power (aperture more important).
- Shaky and wiggly mounts in a store DO NOT improve at home.
- Don't settle for smaller than 1.25" diameter eyepieces.
- Expect to spend \$400 - there are no "good, cheap" scopes.
- Do go to public nights and star parties. Folks there can give wonderful "hands-on" instruction.

## POETRY CORNER:

### Ode

Soon as the evening shades prevail,  
The Moon takes up the wondrous tale,  
And nightly to the listening earth  
Repeats the story of her birth;

While all the stars that round her burn,  
And all the planets in their turn,  
Confirm the tidings as they roll,  
And spread the truth from pole to pole.

Joseph  
Addison

## Banner contest - entries close Dec 8

Since Edith Geiger has retired from designing the SPECTRUM banner, we are in need of one. The Editors are offering a year's membership (or extension) to the BAA for the best banner idea as to be voted upon by the membership at the December meeting.

The allotted space is 2.1" x 7.9" and you should take into account where to put the issue months and year, and the "Newsletter of the Buffalo Astronomical Association".

As the newsletter is xeroxed it must look well xeroxed.

Please send your ideas, or copy of, in final art form to Bill Smith, 184 Creek Rd, Jamestown, NY 14701 or drop off at the meeting  
Enter several!

## NAKED-EYE MOONING

You're itching to do some visual astronomy but you don't due to a variety of reasons: first the Moon is in the sky and besides, there is not enough time, you don't own any equipment or you're on a trip and don't have any equipment, or you're in the middle of the city and the sky is too bright. No need not to observe, as these "reasons" are trivial. The object of interest is right there — the Moon!

Much observing can be done on the Moon with only one's eyes. This kind of observing will make your vision more acute and you will see more with optical aid after doing some of these projects than you would without performing these activities. If you wear glasses/contacts and haven't had a checkup in a couple years, it is surprising how much more detail you can see with a new prescription (I know). Also there is a difference between a prescription for viewing the ophthalmologist's chart on the wall and true infinity. A separate correction for astronomy glasses, infinity vision, may be worth it.

The following projects on naked-eye observing of the Moon can be found in more detail in Fred Schaaf's book Seeing the Sky. I have been doing some of the projects out of Fred's books for 4 years and they are very eye-opening and worthwhile. [Fred, what took you so long to get these in print?]

I mention in the first project that more detail can be seen on the Moon when there is some light in the sky. Too much ambient sky light and the Moon looks pale; viewed in a completely dark sky, the Moon is often painfully bright for prolonged naked-eye viewing. Try them all and see what works best for you.

- Have you ever made a drawing of anything? To do so means you have to concentrate and study the object. Try making a drawing of the Moon, its maria and visible craters. It can be at any phase but I find the Moon is easier to look at while there is some light in the sky like a past quarter Moon after sunset. Naturally try to do it without referring to a lunar map! Compare the details you can see with brighter and dimmer ambient light levels. Observe several times and correct your drawing before you check it against a map.
- Extend the previous project and draw the Moon during different crescent phases. Consider how features near the Moon's terminator (line separating the dark and bright sunlit portions) appear and watch for those features night to night. Some will 'disappear' from view as the lighting angles change. It may take quite a few months to get day by day drawings. The Moon does not always show the same side as there is a slight difference between its rotation on its axis and the revolution around the Earth. This is called *libration* and we can actually see 59% of the Moon's surface. See Antonin Rukl's Atlas of the Moon for an explanation.
- Look briefly at the Moon and it looks like it is a uniformly bright with some dark areas (maria). There are some very much brighter and darker than average areas as well. For example Aristarchus is a very bright crater with parts of it very bright. Bright areas are best seen near lunar noon (90° around the circle from the terminator). A young crater's ray system shows up well under such lighting. Tycho is familiar but the tiny crater Byrgius's system is also prominent (view the post full gibbous Moon, i.e. a early morning object). Try to note bright areas on the Moon (different phases), the darkest maria,

ray systems and areas of varying shading. Observe over a range of lunar phases. Make notes and drawings if so inclined.

- Naked eye viewing of the Moon in its various phases will show a variety of large scale features. This project is about identifying these features. What forms and shapes do the mountain ranges make up? Do the maria present patterns (Man in the Moon, Lady in the Moon, Lunar Hare, Lunar Crab...)? In the maria there are round ones and irregular ones formed from lava overflow. Do any patterns help you in remembering lunar features? Can you see other images in the Moon? Is there any correlation between these features and lunar longitude, latitude or other characteristics? Feel free to use a lunar map but not any optical aid until you finished naked-eye viewing!
- Using a lunar map while you view the Moon naked-eye, will allow you to see more details. With this aid what maria and craters are visible? What are the smallest craters you can see? How many maria can you spot? What can you say about their shapes and surface gradations? How many craters show ray systems? Mare Humorum is a small mare yet easily seen with the naked eye. I didn't know that until I tried it. Identifying features this way does make them more memorable. For mountain ranges use the terminator as a guide. The mountains will deform the terminator into a jagged curve. Craters can show up as notches in the terminator.
- Many people say the Moon looks huge when it is near the horizon. In reality it is an extra Earth radius (4000 miles) away than when it is directly overhead and so should look smaller. Try holding something at arm's length (dime, small dowel or pencil) and see what it takes to just cover the Moon. It may surprise you how narrow something must be in order to just cover the Moon. Try to find when the Moon is nearest to Earth (perigee) and farthest (apogee) and compare the Moon's width against a standard measure found above.
- Try to observe a thin, less than 2 day old Moon. You will need a low horizon to see a 24 hour old Moon. In Spring the Moon's orbit makes a is steep to the horizon at sunset while in the Fall it is steep to the horizon for the old Moon before sunrise. A Moon less than 30 hours old will show a crescent of less than 180° arc. Estimate how much arc you can see and whether the arc looks broken in spots due to sunlight beaming through valleys on the Moon's visible edge. Also, can you spot the Earthshine on the dark portion of the Moon?

### LACKING THINGS TO OBSERVE? NEVERMORE!

If these projects have got your interest up then beg/borrow or buy the following books by Fred Schaaf: Seeing the Sky, Seeing the Solar System and Seeing the Deep Sky all of which are hands-on guides to their topics in concise 1 to 3 page projects — about 80 projects per book.

Redo these projects with binoculars and you will be astounded by the power of 7x35 bins. I believe James Muirden once wrote in Sky and Telescope of identifying over 600 craters with this little optical aid.

Consider these as self-assignments and pass on your experiences to the newsletter.



## Continuations ...

### BAA Annals continued from page 2

League, which the BAA hosted. The article deals with several aspects of meteor observation and should interest anyone in that field of astronomy. Interestingly, the article ends with the following

"Much of the information contained in this paper was obtained during several years of meteor observing with the Meteor Section of the B.A.A. under the patient and tireless guidance of J.P.M. Prentiss."

The BAA had several busy sections a couple of decades ago, and the Meteor Section, apparently, was one of them.

**10 YEARS AGO** - Tom Dey spoke on his work in gas-hypersensitized astrophotography at the November 1985 meeting. Tom, a past president of the Rochester Academy of Science, was planning to hold a one-man show of his astrophotography at Strassenburgh Planetarium. December's speakers were Carl Milazzo, and Clare and Bill Owens whose topic was highlights of their recent visit to Stellafane. It marked the 50th anniversary for Stellafane. Edith showed us at our worst, and this year the Christmas party was hosted by Doris Koestler.

Halley's Comet continued to be big news in the SPECTRUM. One article, by Clive Gibbons of the RASC Hamilton Centre, dealt with the commercialization of the comet, as did an anonymous article "Stop that Comet". Also included was a schedule of coming cometary events, and Observatory Director Carl Milazzo changed the hours of public nights at Beaver Meadow Observatory to accommodate the comet's early setting. A book report on "Halley's Comet" by Francis Reddy was submitted by Jack Mack.

### President's Message continued from page 1

desert plain on a summer night, looking at the full splendor of the Milky Way rising overhead, and not gain a deeper feeling for our place in the universe. It also raises questions of who we are, what we are and why we are, questions often best left discussed during the early morning hours following a night under the stars.

Nearly a century ago, Camille Flammarion, a 19th Century French popularizer of astronomy, wrote:

*"Is it not astonishing that nearly all the inhabitants of our planet have lived and died without knowing where they are, and without having the slightest conception of the marvels of our Universe."*

It is our goal to make it not so. Welcome to the Rose City Astronomers!

Jim Girard  
President  
Rose City Astronomers  
1945 SE Water Avenue  
Portland OR 97214-3354

### Beaver Meadow Observatory continued from page 4

visitors waited for the sky to darken and (maybe) reveal the stars we all knew were out there somewhere. Laura Kohler and her dad got a quick lesson on how to open and close the Observatory and use the telescopes. Around 8:30, Richard Jones began the evening's presentation. As he spoke, the evening was quickly transformed. A few more visitors showed up, then a few more, and then even more. Before long Richard had a packed house. Meanwhile, things outside improved dramatically as the clouds vanished. Joe Drabek and Gene Witkowski piloted the 20" to the planets and an array of deep sky objects while Bruce Newman and Terry Farrell worked the 12". Later that evening we were visited by a Girl Scout troop that was "camping out" in the Audubon Center. While the group leaders had only planned for a quick visit, Bruce and Terry's guided tour of the sky kept the girls fascinated for almost an hour! By the end of the evening it was clear that everyone had had a great time.

The Scouts continued to make the Observatory a part of their activities on September 29th, when we were visited by several Brownie Troops. About 30 young girls and a handful of adults joined Dan Marcus, Rowland Rupp, Don Knecht and Bob Titran at Beaver Meadow. Rowland

**15 YEARS AGO** - At the November 1980 meeting BAA member Gil Brnk from UB spoke on "The Interstellar Medium". For December Edith did "Lampoons", Ken Kimble gave a progress report on the construction of his solar telescope. Darwin Christy gave a special showing of BAA members, past and present, and Joe Provato presented us with a wine and cheese tasting.

Telescope and observing authority Larry Carlino was the subject of Edith Geiger's SPECTRUM "Profile". Another interesting item in the SPECTRUM was the announcement of dues: \$10 for an individual and \$15 for a family. Since then, the former has increased 2.7% annually, the latter 1.9%. I wish the rest of inflation had increased as modestly.

**25 YEARS AGO** - Ernst Both was our speaker twenty-five years ago. His topic was "Realm of the Galaxies". Ernst was then Curator of Astronomy at the Buffalo Museum of Science and acting editor of the SPECTRUM. I think he "acted" in the latter capacity for about a decade. In December, Ed and Olga Lindberg joined forces to present Sundials and Clocks". Edith did her thing too.

The November SPECTRUM (the SPECTRUM was issued monthly in those days) carried an invitation to attend the opening of the Southern Tier Community Observatory. The invitation, addressed to our president, Dick Zygmunt, said that a Cornell University astronomer, Carl Sagan, would provide the evening's lecture. The December issue had a reprint of Russell W. Porter's "A Garden Telescope".

**40 YEARS AGO** - For November the topic was "Telescopes and Their Accessories" presented by Kurt Stehling. Alan Gee spoke in December on "Technical Problems of the Amateur Observer". These meetings were held on the first Wednesday of the month at 8:00 PM at (I assume) the Museum of Science. An observing session at the museum's Kellogg Observatory was held on the third Wednesday, if it was clear.

took the stage with his slide shows and talks while the rest of us trained 'scopes on the Moon, Jupiter and Saturn. The girls also seemed to enjoy the view of the Double Cluster in Perseus, "Wow, look at the stars, there's MILLIONS of 'em!" Later that night, Antonio Cirillo stopped by to try his hand at astrophotography. As we were packing up for the night, we were treated to a bright meteor, bright enough to cast shadows. It lasted long enough for us to see the shadows and turn to see what the bright light was. Quite a treat!

What's coming up next? Our last event of the season will be an Open

## BEAVER MEADOW OPEN HOUSE BEGINNER'S WORKSHOP MEMBER'S COOKOUT -- PUBLIC NIGHT

House on the weekend of November 11-12, held from 1:00-5:00 p.m. both Saturday and Sunday in conjunction with the Audubon Center's Christmas Gift and Craft Sale. Events we're planning include a workshop on getting started in backyard astronomy (see *Workshop* article elsewhere in the SPECTRUM), night sky viewing on Saturday night, a Sky and Telescope back issue giveaway, and the usual solar viewing and computer and/or CCD demos throughout both days. We may also be showing astronomy videotapes or doing other things - if you've got an idea you'd like to try out, give Bob Titran or Dan Marcus a call - we're always looking for more folks who want to get involved! Of course, there will be the traditional potluck picnic after the Open House on Saturday, so bring a dish to pass and dig in. Whether you're interested in brushing up on your astronomy basics, using the 'scopes or just getting a bite to eat, plan on joining us at Beaver Meadow for our season finale!

Bob Titran

### TRIVIA

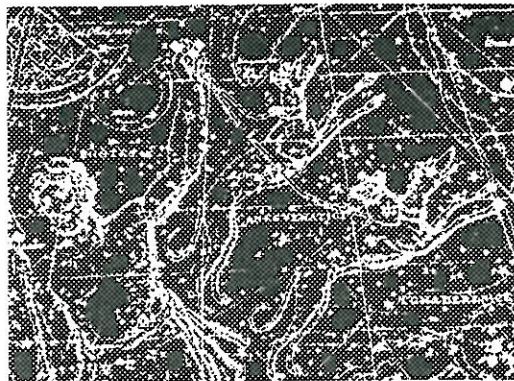
- The brightness of the "first magnitude" is equal to the flame of a standard Plumber's candle as seen from one mile.
- The total amount of starlight received by the earth is one fifteenth the light of the full Moon.
- The weight of sunlight on the surface of the earth is about 2 pounds per square mile.

## CANES VENATICI

*Bootes hath unleash'd his fiery hounds.*  
from Owen Meredith's "Clytemnestra"

Canes Venatici, the Hunting Dogs, is really a more modern constellation which was discovered in about 1600 A.D. It was established where no other constellation occupied the area. Hevelius, a Dutch astronomer whose real name was Johannes Hewel, published it in his star catalogue in 1690. Canes Venatici is supposed to represent two hunting dogs who are pursuing the bear in its circling of the Pole. In Hevelius' atlas, he names the northern dog "Asterion" and the southern dog "Chara". He probably was inspired to give it the name from the much older Arabian convention which named the region "The Retreating of the Howling Dogs".

In other writings the two dogs, Asterion and Chara, are represented as being on a leash led by Bootes, the Herdsman. Bootes, with the dogs, is chasing the great bear about the Pole. Only the most artistically minded will probably try to imagine the hounds themselves in the patterns depicted in the old detailed charts of Hevelius' "Firmamentum Sobiescianum" which shows the dogs being led by Bootes.



The dogs are also shown in some beautiful and artistic cards from the "Urania's Mirror", Plate "P1-10", which contains Bootes, Coma Berenices, Canis Venatici & Quadrans Muralis. Here the two dogs are treated as "Canis Venatici" with another old constellation

attached, "Cor Caroli". Cor Caroli is located in Chara, the southern of the two hounds, near the dog's heart. Information according to this booklet is rather vague and there is not much to go on at all.

Canes Venatici can be found within the boundaries of Bootes, Ursa Major, and Coma Berenices.

Darwin Christy



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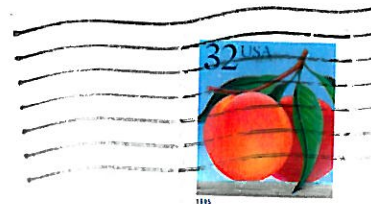
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**FIRST CLASS**

*A great holiday season to all!!*