

1992

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DEADLINE

The deadline for the MARCH-APRIL 1992 issue of "The SPECTRUM" is FEBRUARY 14, 1992 -Thank you!

MEETING NOTICES

The January 10th meeting will be held in the Humboldt Room at the BUFFALO MUSEUM OF SCIENCE at 7:30 PM. The Humboldt Room is to your right as you enter the main lobby. This is the first meeting at the Museum since the new school has been built. Steve Kramer will demonstrate an ASTROLABE from the Museum's collection. A question and answer session with Dave Fliss, Jack Mack, Dan Marcus and Joel Stuckey as our experts will follow. Here is a chance to get expert opinions on theoretical or observational questions that have plagued you. Come armed with questions. Refreshments afterwards.

For February 14th we return to the Science Building at BUFFALO STATE. We will convene at 7:30 PM in the auditorium, then go to the planetarium for a show on the technical aspects of the planetarium by our own Art Gielow. Art is the Director of Buffalo State's planetarium.

MEMBERSHIP CORNER

by Bruce Newman

HAPPY HOLIDAYS to all!!! As we approach the coming new year, a dramatic event is about to unfold. This event will have ASTRONOMICAL proportions associated with it. To get a clue as to what it is, begin by checking your address label on this issue of the "SPECTRUM". If it has the number (91) next to your name, you have not as yet paid for the membership year 1991/92. This means this is your LAST issue of the "SPECTRUM" and your name will not appear in this year's directory. I will be closing "entries" for the directory as of the January general meet-
int (the second Friday of the month.) This is your LAST CHANCE. We will not be sending out letters as reminders as we did last year. If the number (92) appears next to your name, you have paid your membership dues for this year 1991/92 and you will continue to receive all membership privileges.

Family Membership - \$20.00

Individual or regular membership - \$15.00

Student or Senior membership - \$10.00

How about making the January meeting a record for attendance? There are a number of you that have not made it to a meeting this year (or last for that matter) We know who you are! We know where you live! However, we may have forgotten the face!

I hope Santa brings you all those astronomy goodies that you've always wanted (the CCD, the 60-inch scope, all those Naglers.....)!

Wishing you happiness and good health for 1992!



BAA NEW SCOPE

Your club needs you. If you haven't yet heard, the Baa is enthusiastically pursuing funding for our new proposed 20" telescope. With a funding goal of \$5000.00 we will get a large aperture Dobsonian mounted scope that is portable and available for star parties as well as private and public observing at Beaver Meadows. The sooner we raise the funds - the sooner we reap the benefits of large aperture. I am asking members to come forward with donations payable to the BAA. Seeing I am spearheading this project for our club, I ask that everyone tries to help. My personal goal will be to raise funding from 50 members @ \$100.00 a person. Any larger donations will be gratefully accepted. Please send your checks payable to the BAA c/o Thomas Nigrelli, 336 Utica St., Tonawanda, NY 14150. A Any questions, please call me at 695-7193. THANK YOU--- Tom Nigrelli



THE EYE AND ASTIGMATISM

Eyeglasses can correct for a person's astigmatism and such tests are included in any complete eye examination. However, wearing glasses at the eyepiece of a telescope can be awkward at best unless very low power long eye relief eyepieces are used where the full field of view can be appreciated. At high power, the light cone entering the eye is very narrow and is usually misses or is unaffected by eye defects except for focus. And all telescopes can alter their focus enough to compensate.

But most observations tend to be made at moderate powers in the range of 100 to 200x. High enough to reveal detail, but not so high as to be adversely affected by atmospheric seeing. Unfortunately, the astigmatism of the eye can still influence the sharpness and focus of the image.

In the past, during my college years, I did have a problem viewing the sky with binoculars and even naked eye. Stars were the classic cross shape in both case. Or even vertically doubled or tripled in some cases! The binoculars did contribute some astigmatism, as found by viewing through each half while rotating the binocular. Rotation of the cross-like image was evident. But holding the binocular steady and rotating my head proved most of it came from my own eyes.

If you already wear glasses, try taking them off and looking at a specular or pin-point reflection. I'm near sighted and so see these bright points as extended sources, much like a slightly unfocused star but without the diffraction pattern. In my case, the image is not circular but elliptical vertically and rotates as I rotate my head. This is my residual astigmatism.

Of course, wearing eyeglasses of the proper prescription practically eliminated the problem but I missed the wider vista through both binocular and telescope. So I tended to avoid low power wide fields, missing out on a lot of wonderful views.

About this time, I became interested in Yogi and came across an eye exercise in the book I was reading. Briefly, you imagined yourself facing a huge clock. Something like being nose to nose with Big Ben in London. And you had to follow the tip of a large second hand as it swept over each numeral. I started this exercise and moved my eyes out to each imaginary number in sequence. Not in a straining or forcing effort but as far as could be comfortably reached without moving my head.

Noon, One, Two, Three, Four, Seven, Eight... What a minute! What happened to five and six o'clock? The muscles that moved my eyes around jumped right from the four o'clock position to the seven o'clock position. It took a great deal of effort to point my eyes to the edge of my imaginary clock in these "forbidden" locations.

Obviously, my eye muscles weren't used to these directions, so I slowly, gently and gradually got them to move in these directions with the result that after a month or so, I noticed a reduction in the amount of astigmatism I experienced in naked eye star observations. Then I happened to meet another student at the University of Buffalo that was actively into Yogi. He too had had a problem with astigmatism and had actually eliminated most of it using the same exercise. Apparently, the eye muscles by exerting unequal tension on the eyes, distorted them enough to produce both his and my astigmatism (or at least most of it).

Since then, I have continued to do this exercise. Each morning, for a few moments I slowly follow the tip of the same large imaginary second hand first in one direction and then the other.

Of course this will not correct actual physical distortion of the eye, but if you have a problem with astigmatism, this may be of some help. I still need my glasses for low power observation, say below 50x. But I can if I want dispense with my glasses when using binoculars if I'm not that fussy about the image. I had to wear my glasses for any good views before this.

If you do try this, remember to take your time and not force the eye motion to the point where you feel strain, like muscle strain. Sneak up on it.

And even if you are not bothered by astigmatism, it's a good idea to test each eye at the eyepiece. In my case, the right eye is still a bit astigmatic so low power views are not as sharp as they could be. The left eye is definitely sharper. So I will tend to look left

eyed for the sharpest view. But the left eye has less low light level sensitivity. The right eye will pick out nebular details the left sees only with difficulty after some concentration. So I look right eyed at faint objects. Checking your eyes will optimize your observing by choosing the one appropriate to the object, just like choosing the most appropriate eyepiece.

Dave Fliss



BAA ANNALS

5 YEARS AGO - Ken Kimble was our first speaker in 1987, talking about his favorite astronomical topic - the sun. In February we had a "round-table" discussion, much like we plan for our next meeting. The suggestion given in the 1987 SPECTRUM, to "bone-up" on a question, applies this time as well.

Leslie Martin wrote an essay on the anthropic principle, and obviously was very dubious about its validity. Excerpts from an oration given in 1775 by David Rittenhouse before the American Philosophical Society appeared in the SPECTRUM; it was concluded in the March-April issue. I'm sure Steve Kramer was the contributor. Edith Geiger's Profile featured our former Treasurer, Jack Empson. The obituary of honorary member Octavia S. Black was written by Ed Lindberg. Mrs. Black assisted the BAA in its drive to raise funds for Beaver Meadow Observatory in the mid-70s, and often hosted star parties at her Camp Sprucelands near Java, N.Y. over a 20 year period.

10 YEARS AGO - Phil Cizdziel, who was then a graduate student in astronomy at the University of Hawaii, spoke on "The Mauna Kae Observatory" at our January 1982 meeting. In February Fred Price spoke on "Mysterious Happenings on the Moon".

There were no articles in the SPECTRUM, but a Profile of Dennis Jewell appeared, along with observations by Carl Milazzo, Doris Koestler and Steven Desmond. Editor Darwin Christy included an astronomical quiz and notes on constellations both old and modern.

15 YEARS AGO - Quizzes were also in vogue five years earlier. Rowland Rupp gave the answers to a quiz he contributed to the November-December 1976 SPECTRUM about explorers lost on the moon. The quiz originally appeared in "Design News". The BAA's Bill Chambers spoke on "Image Intensifiers" at the January meeting. In February another BAA member, Fred West, talked about "Open Clusters".

An article on Caroline Herschel, a well known astronomer of the late 18th century and early 19th century, was featured in the SPECTRUM. The author's name was not given. Observatory Director Tom Dessert reported on the second year of operation at Beaver Meadow. He noted that the Bob Kartyas 8-inch telescope had been installed and that at least three more telescopes would be required to "fill our observational needs". We're still working on the first of them apparently.

25 YEARS AGO - At the January 1967 meeting members of the BAA's Observing Section presented results of their recent discussions on the Milky Way and their plans for the future. Fred Price spoke on "The Igneous Origin of Lunar Surface Features" at the February meeting. All meetings were held at the Museum.

Plans were underway for a three-day convention of amateur astronomers to be hosted by the BAA in May 1967. Registration at the Hotel Statler on a Friday evening was to be followed by a star night at Newstead Observatory. "The Story of Stellafane" and other papers were to be presented on the second day, which was to end with a banquet at the hotel. A call for papers by BAA members emphasized that contributions from members of the host club are often the most interesting. The final day was to be devoted to the sun; visits to the Museum's solar observatory and to Walter Semerau's solar laboratory were to conclude the convention.

STAR PARTY REPORT:

Nov 2, 1991

by Bill Smith

This was a sort of impromptu star party announced at the October meeting but not listed in the Spectrum. Clouds, high winds and the first snow in Buffalo scared people off but it was clear and quiet all night here in Jamestown! That is why we try to have a message on the answering machine and always welcome last minute overnight guests. Good nights are too few to miss.

I was out between 7 and 9PM and 3:15 to 5:30AM that night. I used 16x80mm binos and a 10" f5.6 dobsonian. All viewing is unfiltered unless noted. The exception is at 44 power (32mm Televue wide field eyepiece) which always has a Lumicon deep-sky (L-sky) on it. I'll list magnifications used.

Early evening objects included:

- Veil nebula: both arcs visible w/o filter, 26x; the faint patch between them was seen w/ L-sky filter, 44x.
- NGC 6811 off the wing of Cygnus is a pretty, rich and large open cluster buried in the Milky Way, 44x.
- M45 the Pleiades a simply a delight at 26x.
- Helix, NGC 7293 was easily visible in 16x80 binos.
- NGC 7392 small mag 12 galaxy found by star pattern.
- NGC 7377 nearby is the same as 7392 but much more difficult to find as no easy star path leads to it. Look these up on a map (Uranometria is best) and see what I mean. 110x
- Two small meteors seen

Morning objects included:

- M42 was superb; 6 trapezium stars seen, 26 to 210x.
- Just north of M42 is NGC 1981 a nice but sparse OC.
- NGC 2023 & 24 were easily visible, 44x.
- IC 434 the streamer off the east belt star just detectable. Even the redoubtable Horsehead nebula gave a rare appearance. For me it requires high power (210x) as it is small and to eliminate any bright stars (like mag 7). I also have to know exactly where it is and I triangulate off a photograph. Five dim stars surround it. I looked at it 3 times that morning and spent 20 minutes at it even though I'm familiar with the field.
- TIP: use a dark cloth on your head to eliminate all stray light when viewing faint objects.**
- M108 was extended with a bright middle, 110x.
- M97 was blatantly bright, brighter on one side and the opposite dark eye perceptible, 134x w/Orion ultrablock filter. I like the view of both M108 and M97 at 44x best.

-NGC 3499 .25 deg from Beta U Maj was a very faint round glow, 110x mag 14.

-NGC 3517 barely visible nearby, 110x, mag 14.

TIP: Tap scope tube: the eye can see a very faint object that moves slightly that would otherwise be invisible if it was steady.

-Nice was NGC 3448 a sort of dim and bit smaller M108 seen at 44x better at 110x, mag 12.

-Nearby NGC 3398 was barely there, found by matching star patterns between sky and chart, 110x.

-California nebula NGC1499 was traced at 26 & 44x.

-NGC 1275 & 1270 galaxy complex 3 deg west of Algal consists of 14 galaxies in .25 degree field. Either the two main galaxies were seen or the agglomeration of several. Should be a good observing object for a 20".

-Rosette nebula seen w/o filter at 44x.

TIP: Sweep the scope gently to trace outlines of these large faint objects against the sky.

-Jupiter had excellent belt banding and subtle details seen in the steady morning atmosphere.

Rowland A. Rupp



Did I see everything I tried for? No-there are always a few that get away! Specifically:
 -NGC 3594-makes a perfect equilateral triangle with Messier 97 and 108, mag 15, unseen at 110x.
 -NGC 6884 & 7026 two small (6" & 24") planetaries in Cygnus. 6884 is near a mag 4 star but unseen in a short search. 7026 seemed to be in a confusing field. Webb Society books say 7026 was seen in a 6" at 65x. Did I miss an easy one?!

Often not seeing an object can be traced to not really knowing where it is - especially true for small faint objects near your scope/viewing location/personal experience limits. Trying to view these fainties gives you experience that helps you see more in the bright objects. For sure there's about no detail to be seen beyond shape for limit objects!

I saved the best for last! It was the moon 2 days before new rising through the trees at the edge of our horse pasture 200 yards away. Earthshine was glorious and all ways of viewing - direct eye, bino and scope at 26x built on each other. The scope view with the treetops in the field was awesome. The gathering thin clouds (first ones all night) started to lace with the moonlight at 5:15 and made this viewer imagine he was a galactic voyager passing thru a wispy nebula. Did that "whinnie" in the distance come from the Horsehead nebula or from one of our horses greeting the moonrise?



INSTRUMENT NOTES

When an amateur observer decides to buy his own telescope he looks for a make and model that comes well recommended. He pays a good price for it and starts observing various well known test objects. Later on, perhaps at a star party, he observes these same objects with various other scopes. He finds to his dismay that his own pride and joy is noticeably inferior. He has just come face to face with one of the common maladies of manufacturing - price competition.

Manufacturers of telescopes, like other makers, make the best possible product. But they must cut corners wherever possible. They furnish the best mirror that is available and put in a good diagonal and collimate carefully. And they furnish (as claimed) a set of eyepieces to give various powers. These eyepieces are sometimes not of the very best grade, to describe them charitably. The better eyepieces are very expensive. To furnish such oculars would raise the sale price of the telescope and they would be scooped by the competition. So they do the best they can, assuming that the user will buy some good ones which he learns the facts of industrial life.

When our observer begins to think about eyepieces he will probably find that some in his collection are of the Ramsden type. The Ramsden is the economy eyepiece. It consists of two single air spaced lenses. It is a good step above the simpler Huygenian type furnished with cheap telescopes of the department store variety. It is well corrected for light in the green region. It contrasts with the types furnished with the wildly advertised wonder telescopes offering 200 or 300 power. These eyepieces are afflicted with the horrible malady axial color aberration. This virus causes the lens to bring light of different colors to focus at different distances along to optical axis. This affliction may be combined with spherical aberration and lateral color aberration. When you look at a star known to be white through such an eyepiece the image cannot be brought to a good focus anywhere and there will be fringes of different colors. When someone tells me that they are getting color fringes with a reflector, I tell them to borrow a good eyepiece.

During the 30's and 40's amateur telescope makers were using Ramsdens and Kellners. The Kellner is an improved Ramsden. It has a cemented double lens as an eye lens. During the 40's amateurs were getting these eyepieces from their favorite supplier C. C. Young of Hartford, Conn. He would furnish the best eyepieces available for 5 dollars.

When the orthoscopic eyepiece came out in the early 50's it greatly improved telescope performance. This type consists of a triplet cemented lens as the field lens and a single eye lens. It is fully correct for distortion and the more common aberrations. More recently the Plössl type has invaded the field. It features a pair of cemented doublet lenses. It rates with the finest eyepieces in the field. It has a wide field and gives good eye relief. It is made of rare earth glasses and is corrected by computer control.

I have been present at eyepiece swapping sessions of star parties where we have compared the Plössl and the orthoscopic types with those of lesser quality. I have not found the Plössl to be significantly better than the orthoscopic. What happens is that when you get as good an eyepiece as the orthoscopic there is not much further to go. And also when you reach a certain level of eyepiece excellence you run out of objective quality. I believe that for the usual run of good telescopes the Plössl does not justify its higher price.

I recommend that every telescope owner have a orthoscopic eyepiece of one inch focal length in his eyepiece box. It will become your standard against which you can compare any ocular of unknown quality. The orthoscopic eyepiece will always give a good account of itself, especially at high powers.

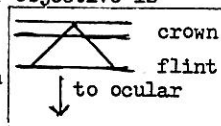
Ed Lindberg



A NOTE ON REFRACTORS

If you take your refractor objective out of its cell you will usually see a "V" in pencil on the edge somewhere. This is a collimation mark and means the objective is corrected only at this position. It means technically that the glass of the two elements did not have uniform refraction thruout the discs. These defects were overcome by local correction in the final stage of figuring. It was very common in glasses made before WW I. If you have an Alvin Clark, or a Zeiss, or Byrne your glass probably has local corrections and only works properly when the "V" is matched up. If your objective is cemented all this does not apply to you.

In many years of collimating small and medium refractors I usually find when I open them up that the flint had rotated as much as 50° from the crown. Objectives cannot be fitted tight in their cell because the compression on the glass ruins the image. If they are held too loosely they rotate and ruin the image. When I brought mt Byrne from Kansas to the badlands of Connecticut I immediately noted the image was poor. I took it apart and the "V" marking was 50° apart.. the worst case I have ever seen. My wife says its the way I drove. When I cleaned the 12-inch refractor at Cincinnati (for a few months the largest refractor in America until replaced by the Harvard 15-inch) I found TWO sets of collimation marks, one 20° apart and one 33°. This suggested that the objective had been refigured after some decades of use. The University denied any such behavior (1947) but ten years later found records that showed the Clarks had indeed refigured it.



Even when mounted in an observatory the ground tremors are enough to rotate the elements in some refractors, roads to Stoney Hollow do the job faster. Even screwing the cell in and out (if you take the objective out when not using it), can cause rotation. Who has devised a way to check this rotation without taking the lens out of the cell?????

'TWINKY'

Walter Scott Houston



ASTRONOMICAL HAPPENINGS

- January 1 - Venus conjunction with Moon
- January 2 - Mercury conjunction with Moon
- January 3 - Mars conjunction with Moon
Earth at perihelion with Sun
Quadrantid meteor showers
- January 4 - New Moon

An Annular Eclipse will occur throughout the Pacific Ocean. Western North America and Hawaii will enjoy only a partial eclipse.

Uranus conjunction with Sun
 January 6 - Saturn conjunction with Moon
 Moon at apogee
 January 7 - Neptune conjunction with Sun
 January 10 - Mercury conjunction with Venus
 January 12 - First Quarter Moon
 January 16 - Delta Cancri meteor showers
 January 17 - Kappa Cygnid meteor showers (Fireballs)
 Coma Berenicid meteor showers
 January 19 - Full (WOLF) Moon
 Moon at perigee
 Mercury conjunction with Uranus
 January 20 - In the orbit of the Earth about the Sun, the Sun
 will appear to be leaving Sagittarius and entering Capricornus
 January 21 - Mercury conjunction with Neptune
 January 22 - Jupiter conjunction with Moon
 January 26 - Last Quarter Moon
 January 29 - Mars conjunction with Uranus
 Saturn conjunction with Sun
 January 31 - Venus conjunction with Moon
 - - - - -
 February 1 - Mars conjunction with Neptune
 Uranus conjunction with Moon
 Neptune conjunction with Moon
 Mars conjunction with Moon
 February 2 - Moon at apogee
 February 3 - New Moon
 February 7 - Venus conjunction with Uranus
 February 8 - Venus conjunction with Neptune
 February 9 - Aurigid meteor showers
 February 11 - First Quarter Moon
 February 12 - Mercury in superior conjunction
 February 17 - Moon at perigee
 Leaving Capricornus, the Sun will now appear to
 enter Aquarius
 February 18 - Full (SNOW) Moon
 in 1930 Clyde Tombaugh discovered Pluto
 February 19 - Jupiter conjunction with Moon
 Venus conjunction with Mars
 Copernicus born 1473
 February 25 - Last Quarter Moon
 February 26 - Delta Leonid meteor showers
 February 27 - Pluto stationary
 February 28 - Uranus conjunction with Moon
 Neptune conjunction with Moon
 Jupiter opposition with Sun
 Venus conjunction with Saturn
 February 29 - Moon at apogee
 LEAP DAY!!!!!!



Beaver Meadow Observatory 457-3104

Public Night Season is over for 1991, and I would like
 to give my special thanks to Marilou Bebak, Elaine Bilicki,
 Larry Carlino, Ed Czapl, Joe Drabek, Jack Empson, Bob Hughes,
 Ken Kimble, Doris Koestler, Steve Kramer, Bruce Newman,
 Tom Nigrelli, Peter Olchvary, Bob & Brian Rzoska, Rowland
 Rupp, Dave Sepulveda, Lynn & Wade Sigurdson, Joel Stuckey,
 Luann Szucs, Gene Witkowski, and especially Dave Fliss who
 has been trying to organize, and improve on our Observatory.
 The Club is also grateful to Carl Kalweit for the loan of
 many fine reference books, including Burnham's Celestial
 Handbook, along with many back issues of Sky and Telescope.
 This years season was one of the best attended by club members.
 It was a real pleasure to have unexpected extra help on
 public nights. The most memorable night was during Beaver
 Meadow's "Owl Prowl" when we had over 100 people show up,
 boy were we glad when Bruce Newman showed up to give Dave
 Fliss and I a hand.

Mirror: I will be sending the mirror out for aluminization
 before Christmas, and should be back in January 1992. In
 the mean time, Bill Smith has scheduled a star party to
 make up for the lack of a club scope! For more info on
 when the mirror is back call the Observatory or me.

PS great time to see how a H-alpha filter works.

Mar 28, 1992 Saturday Bill and Carol's rain date for
the Messier Marathon! (from Mar 7)

Apr 4, 1992 Saturday 1) First public night of year
2) Buffalo State Astronomy Day.

Need people with computers, telescopes, photographs, and
to hawk raffle tickets for our new telescope. Come join
the festivities. The annual solar system walking tour is
great fun for young and old. This is the "Best" astronomy
day celebration in the country.

Apr 5, 1992 Sunday Astro Day continues!

Apr 18, 1992 Saturday Public Night Beaver Meadow Observatory.

May 2, 1992 Saturday Spring Open House Beaver Meadow
Observatory. 10am - 5pm, dusk till 10pm. Need help with
computers, pictures, telescopes, and just showing off the
Observatory.

May 16, 1992 Saturday Public Night Beaver Meadow Observatory

Jun 6, 1992 Saturday Beaver Meadow Observatory Repair
and clean up day. Noon to 10pm. Come give us a hand, need
help cleaning, painting, repairing, and public night.

Jun 14, 1992 Sunday Partial Lunar Eclipse. To be announced
later.

Jun 20, 1992 Saturday Public Night Beaver Meadow Observatory
dusk till 10pm.

Jun 27, 1992 Saturday "Your Star Party"

Jul 4, 1992 Saturday Public Night Beaver Meadow Observatory
dusk till 10pm.

Jul 11, 1992 Saturday Star Party T.B.A.

Jul 18, 1992 Saturday Summer Nature Festival at Beaver
Meadow Observatory 10am to 5pm and dusk till 10pm. Need
the usual help with pictures, computers, and telescopes.

Jul 19, 1992 Sunday Nature Festival continued 1pm to
5pm.

Jul 25, 1992 Saturday Star Party T.B.A.

Aug 1, 1992 Saturday Public Night Beaver Meadow Observatory
from dusk till 10pm.

Aug 8, 1992 Saturday How about your star party here?

Aug 15, 1992 Saturday Public Night Beaver Meadow Observatory
dusk till 10pm.

Aug 22, 1992 Saturday Star Party T.B.A.

Sept 5, 1992 Saturday Public Night Beaver Meadow Observatory
dusk till 10pm.

Sept 19, 1992 Saturday Beaver Meadow Trash and Treasure
Sale. Bargains Galore! We will be doing our usual thing
from 10am to 5pm and dusk till 10pm. Of course we need
your help. Computers, pictures, telescopes, the usual.

Sept 20, 1992 Sunday Trash and Treasure sale cont.
1pm to 5pm.

Oct 3, 1992 Saturday Public Night Beaver Meadow Observatory
dusk till 10pm.

Oct 17, 1992 Saturday Last normally scheduled Public
Night! dusk till 10pm.

Nov 14, 1992 Saturday Open House need the usual help,
but bring your warm clothes please! 1pm to 5pm and dusk
till 10pm.

Astronomy Club Calendar:

Jan 4, 1992 Saturday Bill and Carol Lorenc 184 Creek
Rd., Jamestown N.Y. are having a WINTER STAR PARTY! They
encourage you to come in spite of the cold! There is a
fireplace to warm up by, horses to pull the sleigh, X-country
skiing, sledding. Bring the kids! and have a good time.
Hot maple syrup, with pancakes and waffles for those who
stay for breakfast.

Jan 11, 1992 Saturday Bill and Carols Snow date for
Jan 4!

Mar 7, 1992 Saturday Bill and Carol again invite you
for the 2nd annual Messier Marathon! This is the time of
the year you can observe all the Messier Objects in one
night! Last year we managed to view all but 10. This
year we intend to get them all! Golden opportunity to learn
about the stars, and sharpen your observing skills. You
are encouraged to bring your own scope, the more the messier!
Call for sky conditions 1-664-0841 if cloudy see March 28
for rain date.

Mar 15, 1992 Sunday Museum Telescope and Computer Program
Clinic. 1pm to 4pm. We have held a telescope clinic at
the Museum of Science for the last two years. I will be

needing help to operate the solar scopes, assist with the telescope problems, and people to show the public how the astronomy programs work. This is a hands on event. I expect it to be well attended, as the Museum is hosting the Dinosaurs Alive exhibit. We can expect up to 200 people to show up, so if you just come for crowd control it would be a help!

Nov 15, 1992 Sunday Open House continued from 1pm to 5pm.

Dec 9, 1992 Wednesday Lunar Eclipse! Looking for volunteers to man the observatory for the eclipse 5pm till 10pm Dress warm, and do your clear sky dance.

As you can see we have a full schedule of viewing ahead for us next year, so if you want to plan a star party for the summer, give me a call at 773-5015

Daniel R. Marcus



SPY and TELL

Steve Kramer and Bob Hughes had great fun with the Antikythera Mechanism at our Boulevard Mall exhibit in October. They used this ancient Greek Eclipse Calculator to figure the next solar eclipse from the July 11, '91 spectacular, and found that there will be an annular solar eclipse on January 4, '92, to be seen in Los Angeles. Right on target!

Joe Provato came to Buffalo 23 years ago and decided to stay. He has worked at Thermo Window Mfg. Inc. for 15 years, which he says is the halfway mark to his retirement. Joe and Fred Price are going to New York for the Thanksgiving holidays.

Brianna Sepulveda will soon be 15 months old; Adam received rave reviews at the 1st grade Parent-Teachers Conference and Cathy's bowling average is up 10 points from 124.

Dave Fliss works in Brand Names Service Department where they handle returned defective products. He has been a BAA member for about a year, having learned about our association from Marilou Bebak. He volunteers at the Kellogg Observatory part-time on Fridays where he shares with the public, the knowledge of the heavens that he gleaned from his college astronomy course.

Doris Koestler and hubby, Bill, had a great time in Los Vegas where Doris was in especially high spirits. She saw Elvis, alive and well, performing at the El Morocco Hotel, or at least, his double was. As Elvis strolled through the audience, he spied our lovely Doris and sang to her on bended knee, placing a kiss on her soft, rosy cheek. She was so twitterpated after her encounter with Elvis that she volunteered to aid a magician in a show. The Koestlers had a delightful evening at Rosy O'Grady's, and an ad at Caesars Palace prompted them to see the Blue Planet show (sort of a planetarium) which was breathtaking. They also saw Hoover Dam, a completely overwhelming sight. Doris is still trying to recover from all the excitement of the trip.

Fred Price has taken over a dozen beautiful photos of floral arrangements, planets, and England. They are 8x10 prints and he has sold two already.

The following members participated in the Boulevard Mall exhibit: Bob Hughes, Steve Kramer, Dan Marcus, Rowland Rupp and the Geigers. For those of you who wonder whatever happened to Paul and Diane Redding (very enthusiastic members years ago), their visit to our exhibit provided the answer. Paul is now teaching history in Western New York Heritage Institute at Canisius College, and Diane is in nursing. Paul, as usual, is very busy, but he is thinking of returning to the BAA.

Marilou Bebak is enjoying, very much, her teaching position at Nardin Academy.

Darwin Christy canned 14 quarts of his famous homemade chicken and beef chowder. He made a total of 12 gallons. He gave much of the chowder to his friends, relatives and neighbors and still has a winter supply for home consumption. He is grateful to Ruth for helping him chop carrots and other vegetables, and for washing all the dishes and pans that were used in the preparation of his special recipe.

In asking Ken Kimble if he had something for Spy and Tell, he responded with, "No, but I'm thinking real hard."

Edith L. Geiger



ALVIN CLARK

&

ALVIN GRAHAM CLARK

Alvin Clark was not really an astronomer as was his son Alvin G. Clark. The elder Clark was born in Ashfield, Massachusetts on March 8, 1808. A portrait painter in Boston, he later, in 1844, turned his attention to making telescopes. In 1846, two years later, he devoted all his time in the business of astronomical instrument making. He achieved his fame and world wide reputation when he completed the Chicago 18.5-inch telescope. Other telescopes he is known for are the Washington 26-inch, the Russian 30-inch and the Californi 36-inch.

On August 19, 1887 while at work in Cambridge, Massachusetts, he passed away.

The younger Clark, the former's son, was an American astronomer, born at Fall River, Massachusetts on July 10, 1832. He became an associate with his father under the name of Alvin Clark & Sons. They began work on an object glass which became the Chicago 18.5-inch telescope in 1859, which eventually became the property of the Astronomical Society of Chicago. With this instrument, Clark discovered the companion to Sirius and received the Lalande Medal, an award from the French Academy.

Many other telescopes were constructed under his supervision. One such telescope was for the Naval Observatory, a 26-inch instrument which was used by Prof. Asaph Hall to discover the two satellites of Mars, Phobos & Demos. He also produced a telescope for the University of Virginia, the McCormick telescope; the great 30-inch telescope for the Saint Petersburg Imperial Observatory. The famous powerful Lick telescope, with an aperture of 36-inches to be placed at Mount Hamilton in California in 1886, was used to discover the fifth satellite of Jupiter. Finally, he was instrumental in building the greatest of all, the famous 40-inch Yerkes lens for the telescope located at Lake Geneva, Wisconsin.

The one part of his astronomical achievements was the discoveries and observations of double stars. Moving back to where his father was born, in Cambridge, Massachusetts, young Alvin Clark passed away on June 9, 1897.

Their contributions to the scientific world of telescope making and discoveries in astronomy are hard to surpass.

Darwin Christy



CONAN of SAMOS

A Greek astronomer and mathematician, Conan of Samos, who lived in the 3rd century B.C., was a friend of Archimedes. Through their friendship, he invented the curve known as the 'Spiral of Archimedes'. His works have not survived him, although the main testimony to his genius can be found in the laudatory comments of the surviving works of Archimedes.

After making many meteorological and astronomical discoveries and observations in the western part of Greece, he settled in Alexandria. His fame is from the discovery and placing of a new constellation, (245 B.C.) Βερενικη Πλακκος we now know as Coma Berenices.

'De Astrologia', one of his works has been lost. It contained many studies of Solar Eclipses.

Darwin Christy

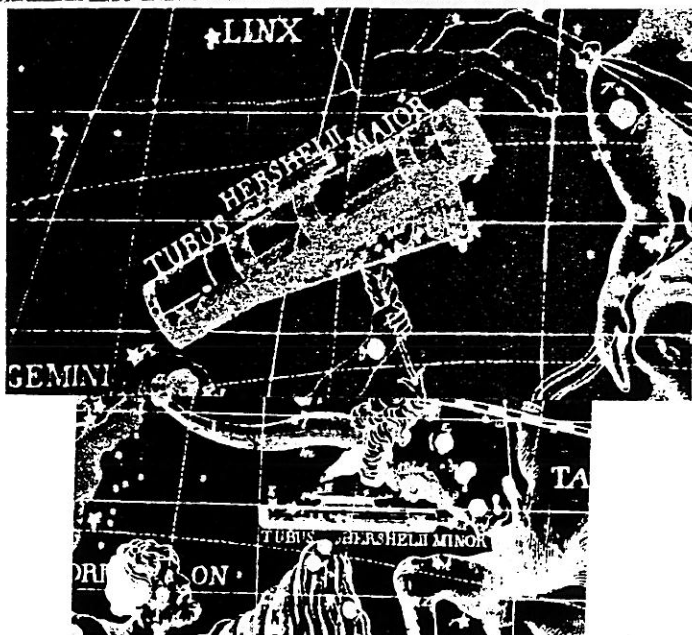


TELESCOPIUM HERSCHELLI

In 1781, Father Maximilian (Abbe) Hell, an 18th century Viennese astronomer formed a group of stars in honor of Sir William Herschel. In a space not occupied by bright stars and on the borders of the Lynx, the Charioteer and the Twins, he placed a telescope. This telescope is sometimes referred to as Herschel's Tubus Major. It was first published by Bode in 1800 as well as it having appeared on Burritt's Atlas. It has disappeared from the maps and catalogues, giving way to the present day constellations. The star Pi in Gemini marks its former location and expanded out to the west through Psi in

Auriga and not far from Beta.

A second telescope which Father Hell formed is located between Taurus and Orion. This constellation, he designated as Herschel's Tubus Minor as a second constellation honoring Herschel. For what reasons Father Hell named two constellations to honor Sir William Herschel is a mystery and will no doubt stay that way for eons to come. There are different versions of these two telescopes, although they have both been discarded from any of the modern maps and charts.



OFFICINA TYPOGRAPHICA

Bode formed this vague constellation, Officina Typographica, the Printing Office, just east of Sirius in Canis Major, perhaps using Gamma as its central star. Being a lesser group of stars, it has since been disregarded by astronomers of today. In 1787, Father Secchi inserted it into his planisphere as an instrument to be recognized in tribute to printing the stellar asterisms on maps and charts.

From another source, this constellation was referred to as, "Machina Typographica", depicting a copy of the 'Magna Carta'. The upper and lower right corners of the document are placed at the stars 19 and 20 in Puppis.



This and other ancient constellations, of course, have been eliminated from all maps and charts: but their memory still comes to light.



SENIOR CITIZENS' ASTRONOMY IN OTHER LANDS

Eclipse chasers know all too well just how frustrating the weather can be. After traveling to exotic lands for a chance to view a few minutes of totality, they often find the local skies clouded, sometimes even pouring rain down upon their miserable equipment and selves. But those of us who are just looking for a few familiar stars in an unfamiliar sky can also be frustrated. Location itself can be the culprit.

For example: when Ken and I were in the alpine regions of Europe earlier this year (1991), we found we were farther north than Rochester is, and that really changed the sky. Rochester sits at about 43° latitude. The Rhone Valley in Switzerland, near the town of Fiesch, is about 46.4° ; the German village of Sipplingen on the northern shore of Lake Constance (between Germany and Switzerland) is about 47.8° ; and our favorite guesthouse in the Black Forest, just 12 km south of Baden Baden, is at about 47.7° . It's amazing what a few degrees will do.

The problem is not in the rearrangement of stars. The problem is with the rearrangement of sunrise and sunset times. When one plans days full of activities, one hopes to devote much of the night to restorative sleep, with perhaps a few minutes of star gazing before drifting off... HAH! You see, the sun rises very early in the morning, long before we are ready for it (but the birds are ready and sing loudly!) and in the evening, the sun just does not want to quit.

In the Black Forest, we do a lot of walking, and really go to bed tired out, so we made little effort to find stars from that location.

On the 25th of June, we were in the neighborhood of Fiesch, at a small hotel in the hillside village of Ernen. Our balcony faced west, toward Eggishorn Mountain, which we had conquered that day - with the help of two cable cars. We sat there, watching swallows swooping around, listening to a lonesome cello in one of the houses nearby, and watching the clouds. At 9:00 p.m., they were still sunlit, and Venus was a bright eye appearing and reappearing in the gaps. At 9:30, a local farmer drove by with his last load of hay for the day, and at 9:45, Jupiter finally became naked-eye visible.

But the most fun happened on the 15th of June, when we were on our balcony of the Hotel Sternen (German for Stars, of course). Ken was watching the sailboats on the lake, following their courses with binoculars. Leaning back, he sighed, "I haven't seen the Moon in so long, I don't even remember what phase it should be!" Then he leaned over the rail again, and began to chuckle. "There it is now, and we're having a nice little conjunction!"

Our balcony faced south, so we had to lean out over the rail to see the western sky, but sure enough, there in the glare of early twilight, were the crescent Moon, Venus and Jupiter. Ken reported seeing another nearby star with the binocular, but it was a long way from naked-eye visible. What time was it? It was now 9:50 p.m.! (And imagine our amazement when we got home and discovered the star was actually Mars.)

Yes, you younger folks could manage to stay up later for your observing, but we old folks did want to save our energies for the wild flower walks, museum visits and other activities limited to daylight hours. We'll get back to astronomy now that we're home again.

Trudie Brown



IT'S TIME TO FIGHT POLLUTING LIGHTS

Picked up from the Astronomy London, the newsletter of the RASC, London Centre as reprinted from the Universe column in the Sunday Toronto Star by Terence Dickinson.

When our grandfathers were children, the splendor of a dark

night sky thronged with stars and wrapped with the silky ribbon of the Milky Way was as close as the back door. From just about any backyard anywhere in the city or country, the majesty of the starry night sky was visible.

Not any more. Every night a giant dome of light looms over Toronto and every other city. Civilization has beaten back the stars. Our children are the first generation to be born into a world where the stars are the last thing to be noticed at night instead of the first.

Now I'm not suggesting that we don't need lighting at night. But the outdoor lighting we live with - streetlights, parking lot illumination and so-called security lighting - is still largely based on 1960s thinking, a time when the golden rule was "more is better."

This is the decade of environmental awareness, or so we're told. Yet all around us at night is waste lighting: all-night floodlit shopping centre parking lots with no cars, security lights that send most of their output in the neighbor's windows rather than the area intended, streetlights that pump up to 30 percent of their light horizontally where it illuminates nothing but the eyes of distant drivers or the air above our heads.

Waste lighting is an environmental issue whose time is soon to come. We are going to have to start doing something about it, primarily for straightforward energy efficiency, but also to take the ugly glare out of urban nights in areas reasonably close to where people live.

What can you do? If you have dusk-to-dawn security lights on your home or business, figure out what they cost to run each year. Electricity isn't cheap any more. Does your outdoor light spill into your neighbor's window? They may not appreciate it. Does a streetlight or other powerful light annoy you, reduce your quality of life or prevent you from sleeping? Complain! Bad light is in the same category as a blaring stereo in the neighborhood. All bad lights can be shielded.

Consider floodlamps on an infrared motion detector. Available in many hardware stores for less than \$50, they are easily installed and turn on only where something moves in the vicinity. After a few minutes they go out until something moves again. These systems are more likely to deter someone nasty than a steady glow.



8

BUFFALO SOCIETY OF NATURAL SCIENCES

BUFFALO MUSEUM OF SCIENCE AND TIFFT NATURE PRESERVE

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TELESCOPE TROUBLES

Adult, children over 7

Members of the Buffalo Astronomical Association teen index
Back by popular demand! Did you receive a telescope for Christmas and are having difficulty using it? Maybe you have one collecting dust that you need some help renovating. Perhaps you are not sure where to look in the night sky. Bring your telescope to the Museum and our staff will show you how to set it up and use it properly to observe the heavens. There will also be demonstrations of several planetarium programs for home computers. The Solar Observatory will be open weather permitting.

Sunday, March 15

1:00 - 4:00 p.m.

Buffalo Museum of Science

Free with Museum admission

ADDITIONAL TOPICS IN ASTRONOMY

Adult teen index - 15 up

Rowland Rupp, Edith Geiger and Alphonse Kolodziejczak

The Big Bang, Black Holes, extraterrestrial life and the expanding universe challenge astronomers today. This class will address these timely issues as well as our solar system, special stars and galaxies. A field trip to Beaver Meadow Observatory's 12-inch telescope will cap these topics with an evening under the stars.

BMS 110

7 Tuesdays, March 10 - May 5 (no class April 21)

7:30 - 9:30 p.m.

plus one field trip

Buffalo Museum of Science

Member: \$39.

Nonmember: \$46.

* THE SPECTRUM *

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