

THE SPECTRUM

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INSIDE:

Message from the Board
page 2

A Scope You Will Never
Outgrow page 2

Meetings Notices page 3

Election Nominees page 3

Why Does The Lunar &
Planetary Image Look
Fuzzy page 4

In Search of Planet Vulcan
page 4

Ancient Constellations
page 5

Observation Report page 5

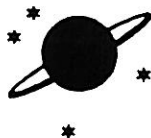
BAA Annals page 6

Spy & Tell page 6

Star Parties page 7

Observatory News page 8

Did You Know ? page 9



International Astronomy Day May 22, 1999 at Tifft Farm Nature Center

TIME : 1 PM till 10 PM Rain or Shine Located at 1200 Fuhrman Blvd.

Astronomy Day all got started 26 years ago, from John Dobson's Sidewalk Astronomers. There idea is to set up scopes near urban areas, closer to where the public live. The date is determined by when the first quarter moon will be out, because lunar shadows brings out crater details and because it isn't effected by light pollution. This year we have the bonus of Venus and Mars out in the evening and an active Sun in the daytime.

Over the years , our club has held Astronomy Day in many locations such as at malls , Erie Community College, Buff-State and the Science Museum. This year we are going to hold it at Tifft Farm Nature Center in south Buffalo. Last year we held Astronomy Day at Beaver Meadow, but we have had two problems with that location. The lack of room for the members and public inside on a rainy day and it is so far away from were the public and members live.

What is nice about the Tifft Farm location is that is has about ten times more room for our displays and activities. We will have an inflatable planetarium to show the constellations and food will be available. If it is a rainy day we can set our members and club scopes on their 38x10 ft porch and show wildlife on the pond or the buildings of downtown 3 miles away. Our main exhibit room indoors is 51x38 ft, but we will also have a smaller AV room with a screen and slide projector. Tifft has a VCR ,monitor ,tables and plenty of chairs for the members and public. Tifft is helping our club with publicity and will be helping to provide us with some activities and exhibits such as model rockets, space station, making impact craters and sundials. Kids will have fun seeing live owls, releasing balloons, bubbles, flying weeds and a walking tour of the Solar System.

Astronomy Day is supposed to be a way to educate the public, but also ends up making the members aware of what our members are active at and what equipment they made or purchased. Our club put on an Astronomy Day event in 1984 in which 34 members came out as volunteers. Can we beat that record? We need help with any of the following: Telescope Tune up Clinic, your computer and software demonstrations, solar filters , telescopes, binoculars , videos, slides, prints, drawings. Also star charts, books, magazines, posters, models, meteorites, speakers, help in selling food, help with kids activities and answering questions from the public about the club and astronomy. Let us know what you would like to bring or what you would prefer to do, or if you have any other suggestions. Call Carl Milazzo @688-4869, Mark Reville @ 627-4213, or Bob Hughes @ 833-2407.

Officers

Bob Hughes~ President
phone 833-2407
Vice President — open

Steve Kramer~ Secretary
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Bev Orzechowski~ Treasurer
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Neil Dennis — phone 322-7596
Open Position

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Tim McIntyre — Editor
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MESSAGE FROM THE BOARD OF DIRECTORS

BAA projects and procurements that need monetary payments require BAA Board approval as we are accountable for club funds. Non-funded projects as a rule do not (for example if you want to hold a star party, photo class or public seminar/event). The BAA Board is the group entrusted to yield direction in such financial matters as well as guide future club direction in general. The work of the Board is done by the officers and committees. Agenda items during the past several board meetings where the President and Board agreed went for the most part smoothly. Areas where we differed were often protracted sessions causing a lot of dark tension among all parties. The work of the Board has suffered due to such prolonged harangue and hence progress withered and relations have become strained. We as a Board are not getting our job done.

The BAA Board of Directors called a meeting April 23 and met, with eight non-board members in attendance, to ask for the resignation of President Gene Witkowski and in the event of not getting that to press for removal from office by the only means the bylaws allows -- expulsion as a member. This was not a matter taken lightly. Both board and general meetings have been the scene of numerous and extended incidents of behavior showing poor judgment, poor communication and poor leadership. Various board members have discussed our inability to bring about cooperation with the President in a series of phone calls that culminated in a gathering to discuss and draw up a list of censure items showing our stalemated position with the President: inability to implement Board decisions; ineffective leader and exhibiting fiscal indiscretion. We simply cannot sustain the lack of progress and cannot afford the negative atmosphere and loss of civility in front of the public. We all like Gene the person but cannot work with Gene the President. The end result of the Board meeting was Gene's expulsion as a member to remove him from office and then the granting to him all rights of a member except membership for the period of a year. Obviously by-law changes are needed to allow officer removal without expulsion.

I wish to remind everyone that each member not only has the right, but an obligation, to bring up issues, ideas and expenditure items to any Board member. We are not omniscient! That is why our names and phone numbers are in the SPECTRUM. Expenditures require the answers to the six questions: what, where, when, who, how and why. The Board looks out for the member's interests not only for immediate needs but to ensure that the decisions made can be sustained into the future. Ideas should be thought out enough to have a plan to implement and maintain them if needed. Let's return our focus to astronomy and putting the fun back in. This is what we as a Board owe our membership.

———— Bill Smith ————

A SCOPE THAT YOU WILL NEVER OUTGROW

by Carl Milazzo

Quite often an amateur astronomer starts out with a telescope and a year later wants a larger one. After using it for a few years, one again often develops aperture fever for a larger light bucket. That is ok, because the larger the scope the brighter and more deeply one can penetrate the Universe seeing fainter and fainter stars and galaxies. Those are nice advantage to have, but the larger the scope gets the smaller the field of view becomes.

No one scope design can do everything. This is true for both amateur and professional astronomer's scopes. All amateur astronomers should have at least two types of scopes and the second one should be what is called a "richfield scope". What is so special about this type of scope is that it shows the most stars in its field of view. Richfield scopes are never small or large, usually in the 4 to 8 inch

range with fast focal ratios ranging from f 3.5 to f 5.5. This gives you a field of view of two to four degrees of the sky, which is why most amateur comet hunters prefer a richfield scope to sweep the sky in their pursuit to discovering comets. They are always using an eyepiece with an exit pupil of 6 or 7 mm to match that of a dark adapted eye. If one uses an eyepiece of too low power, the exit pupil becomes larger than a human's dark adapted eye. This results in wasting much of the light that the scope collected, making an 8 inch scope perform like a 4 inch scope. You never want an exit pupil of 10mm. To determine a scope's exit pupil, you must divide the diameter of the objective by the magnification. To get the magnification, you must divide the focal length of the scope by the focal length of the eyepiece.

Continued page 9 "scopes"

MEETINGS CANCELLATION POLICY

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

BEAVER MEADOW TELEPHONE

The telephone at Beaver Meadow, 716-457-3104, is for emergency use only at no cost. Local calls may be placed for a small charge - see the

collection box by the phone. This phone cannot make long distance calls.

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MEETINGS NOTICES

MAY 14, 1999 7:30 PM NEW SCIENCE BUILDING @ BUFFALO STATE COLLEGE

"The Search for Intelligent Life in Houston: Clues from a Martian Meteorite"
Lecture given by Dr. John L. Berkley Chairman of Geosciences Department SUNY at Fredonia

Of the thirteen known Martian meteorites, ALHA84001 has attracted the most public attention since the announcement by NASA scientists that it may contain fossilized Martian microbes. This talk explores the pros and cons of this amazing contention, and delves into the implications for future Mars exploration and the scientific process in general. Dr. Berkley has 25 years of experience in meteorite research and was the first scientist to publish data on ALHA84001.

JUNE 11, 1999 7:30 PM NEW SCIENCE BUILDING @ BUFFALO STATE COLLEGE

CLUB ELECTIONS / SPEAKER: John Nimy "Star Gazing Around North America"

This is the last monthly meeting until September. Please make an effort to come on out and participate in one of the most important club functions: YOUR RIGHT TO VOTE. There will be 3 Board positions to vote on.

BEGINNER'S SERIES MEETINGS A SUCCESS!!

This year the Speakers Committee tried something a little different – a series of three meetings directed at people just discovering amateur astronomy. These would introduce the hobby and the BAA to newcomers and provide them the information they'd need to avoid some of the common frustrations that can plague a beginner. By all accounts, these meetings were a success, with a combined attendance of over 400 people and a substantial boost to our membership rolls.

The Speakers Committee would like to thank those involved in making these meetings a success. We'd especially like to thank our speakers, Tom Bemus, who opened the season in September with "Getting Started in Backyard Astronomy," Larry Carlino, who gave us "Choosing and Using a Telescope" in November, and Jack Mack, who took us under the planetarium dome in January for "Getting Started Without Getting Lost in the Dark." A tremendous job was done by all!

We'd also like to thank all those who helped get the word out. In particular, thanks to Bill Aquino, Marilou Bebak, Neil Dennis, Tim McIntyre, Bev Orzechowski, Joe Orzechowski, Mark Reville, Rowland Rupp, and Laurie Titran. I'd also like to thank the folks at WBFO Radio 88.7 FM and The Buffalo News for their continued support of the BAA – most of the people who attended found out about us through either WBFO or The Buffalo News. Finally, I'd like to thank the Speakers Committee for their willingness to give this a try – Bob Hughes, Carl Milazzo, Joe Orzechowski and Gene Witkowski.

———— Bob Titran ————

ELECTION NOMINEES

The nominating committee has nominated six candidates to fill the three at – large Board positions being vacated on August 31, 1999. The term is for two years. Nominations from the floor can be made at the May meeting, and elections will be held at the annual business meeting in June. Candidates are:

Bud Abate	Carl Milazzo
Augie Grillo	Joe Orzechowski
Dan Marcus	Bill Smith

Thanks go to my colleagues on the nominating committee:
Bev Orzechowski and Carl Millazo

———— Rowland A. Rupp ————

Astronomy Classes at G. C. C.

Rowland Rupp will be teaching summer courses on astronomy at Genesee Community College. The courses include: "The Summer Sky" where he will teach you to find objects in the heavens and "Extraterrestrial Intelligence" where Rowland will examine the science behind intelligent life in our universe. The Schedules are as follows:

THE SUMMER SKY— Cost is \$ 39, including supplies and observatory trip and meets on Tuesdays, May 11 thru May 25 6:30 to 9:00 pm

EXTRATERRESTRIAL INTELLIGENCE— Cost is \$ 30 Including observatory trip and meets Tuesdays, July 13 thru August 3 6:30 to 9:00 pm

contact Rowland Rupp for more info

Why does the lunar or planetary image look fuzzy?

Images don't always look razor-sharp with lots of abundant detail for a variety of reasons. The blame, usually wrongly so, is first placed on the optical quality and cleanliness of both objective and eyepieces. More likely the culprits are:

optical alignment
unsteadiness of the atmosphere
too short a viewing time at the eyepiece

Optical alignment can be readily corrected. The methods are straightforward and exact. An unsteady atmosphere, known as poor seeing, showing up as strong twinkling of stars, must be waited out by continuous viewing at the eyepiece. On steady nights, when seeing is good, only the brightest stars twinkle some. Poor seeing can also be caused by a telescope that has not adjusted itself to the outside temperature or viewing over a warm house roof. Viewing within an hour after sunset, when the outside temperature is changing, is not the time for high-resolution viewing!

To illustrate good and bad seeing, get two coins from change (nickels or quarters are best). Sort your change to find a nice new, well struck one and a beat-up, nicked and worn coin. Place them on a table, under good lighting, about 4 inches from each other. The beat-up coin represent the view you see most of the time (average seeing). The sharp coin represents excellent seeing. Under normal conditions the seeing gets a little better, then worse, then better and so on. Brief moments (0.1 to 0.5 second or so) of excellent seeing show up every now and then. If you observe for a full minute there may be intervals of excellent seeing totaling perhaps 1.5 seconds. Get real close to the worn coin and really scrutinize its surface, looking for fine details obscured by nicks and wear. Every 10 seconds or so glance at the good coin and go quickly back to the worn one for another 10-15 seconds. During these brief glimpses of 'excellent seeing' try to remember certain details and add those details to your mind's picture of the coin while looking at the worn coin. With practice you will see more and finer details over different parts of the image which you can 'add up' in a composite view in your memory.

Too short a viewing time means you'll miss those brief moments of excellent seeing needed to truly yield the details that any telescope can deliver. Also, it takes 5-10 seconds to accustom your eye to the telescope's eyepiece, its illumination level, adjust for the best distance to keep your eye from the eyepiece as well as time needed to tweak the focus. Note that viewing time means time spent actually looking through the eyepiece, not the time spent outside with the telescope!

The biggest mistake you can make when viewing an object is not viewing long enough. Quick, cursory views almost always result in seeing a poor planetary or lunar image. Other objects such as star clusters and galaxies are not as affected by seeing since the same level of detail is not there to see.

By Bill Smith

On the edge of the infinite

This may or may not be a dream. Imagine you are at a place where your eyes roam around and all you see are celestial sights: the Moon; the planets and some of their moons beyond; gas clouds and star clusters of all shapes and sizes further out and yet further again are galaxies whose light consists of perhaps several hundred billions of stars, individually unseen.

Shocked about all these objects you are seeing, you pop backward to realize you were only viewing through a telescope. Now looking about, you see a familiar earthly landscape and that you're standing at the eyepiece of the club's 20" Dobsonian scope. You take census of it all and figure you must have been overcome by the magic of observational astronomy. Lured in by the view your mind now races to try to understand something about what you've seen. You want to know more and you want to see more.

Whether this is just a dream depends upon if you take advantage of your membership and get to the observatory, club star parties and other events. Your future is your choice; how great it is to have such choices of the infinite!

— Bill Smith —

In Search of Planet Vulcan

At our dinner meeting in March we heard from Philip Evans who spoke on astronomy in the newspapers. He alluded to the search for Vulcan, the alleged planet closer to the sun than Mercury. That reminded me of a book I read recently, "In Search of Planet Vulcan", by Richard Baum and William Sheehan. I had read it before and enjoyed it enough to return to the library and take it out again.

I won't go into the story very far, since Leslie Martin wrote a SPECTRUM article on the subject, entitled "The Fire God", in the March-April 1993 SPECTRUM. In summary, Urbain Le Verrier calculated an orbit for a hypothetical planet closer to the sun than Mercury to explain the anomalous advance of the perihelion of Mercury's orbit. Le Verrier's work was highly esteemed; he had won acclaim by calculating the position of an unknown outer planet, based on perturbations of the orbit of Uranus, that led to Neptune's discovery in 1846. This might be the first quest ever to find the "missing mass".

Subsequently, astronomers searched for the planet and, from time to time, saw a dot transit the sun or saw an unidentified object near the sun during a total solar eclipse. Critics refuted these findings. Squabbles ensued, dividing astronomers into camps for and against the existence of one or more small planets near the sun. Some even thought there

continued next page "Vulcan"

Vulcan continued from page 4

might be a ring of tiny objects circling the sun. At any rate, the issue kept astronomers busy during the latter half of the nineteenth century.

Although the astronomy is fascinating enough, I found the most enjoyable aspect of this book is the history and the people. Astronomers are people, they just sleep at different times. They have vanity (we know that), determination, tempers, limitations-- all those things that the rest of us have. Le Verrier was so disagreeable that meetings he attended always ended in a row. In a well written account, and this is a well written account, these faults come to life, as do virtues. What a controversy arose from the pen of Le Verrier and the sighting of a few astronomers, some professional, some amateur.

Thanks to Philip Evan's comments about Vulcan I reread a highly entertaining book. For those of you who enjoy the history of astronomy and insight into astronomers, you'll be entertained too. You'll also discover how the saga turned out.

———— Rowland A. Rupp ————

Ancient Constellations

CORONA BOREALIS

Looke! how the crowne which Ariadne wore
Upon her ivory forehead,
Being now placed in the formament,
Through the bright heavens doth her beams display,
And is unto the starres an ornament,
Which round about her move in order excellent.

Spencer's "Faerie Queen"

Corona borealis, the Northern Crown, is the only crown of stellar origin which was known to Eratosthenes and the early Greeks. They did call it a sort of wreath; and their successors, who began to look for and locate the Southern Crown, added to the title of the original, the distinguished, 'Protos' and 'Boreios' to show its priority and its northern position.

Corona Borealis has been known by other names through the centuries by the ancients as well as the modern astronomers; some of which are:- Corona Borea, Ariadnaea Corona, Cressa Corona, Corona Cretica and Gnoxis; also Minoia Corona and Minoia Virgo.

Continued top of page

Some of these classic designs referred to Ariadna, or to her father Minos, king of Crete, and to her birthplace in the island at Gnoso, where Theseus married her. The crown has also had many poems about it, for which a whole chapter could be written.

This constellation lies within the boundaries of Bootes, Hercules and Serpens Caput. Its one notable, is the star "T" Coranae, which was a nova in 1866 on May 12th.

———— Darwin Christy ————

OBSERVATION REPORT

THE W.N.Y. FIREBALL OF MONDAY NIGHT MARCH 15 1999

Tristan Dilapo and I had just finished observing with our 26inch dobsonian, out in the Boston Hills. When suddenly the snow lit up at 11:26pm as bright as a night as a full moon. But that night it was moonless and dark out in this rural open hilltop. For the first 3 seconds, the snow was lit yellow as a fairly steady brightness, then it burst and flickered for 2 seconds. As it did, it flashed red and green before burning out in an area on the border of Ursa Major, Bootes and Draco ;some 50 degrees above our northeast horizon. The last 3 degrees of the meteor's path (it's afterglow of a train) twisted at the rate of 3rps, and glowed for a total of 40 seconds to the naked eye. From triangulation, I determined that the meteor ended up straight over Alden, N.Y. That same meteor was witnessed by Dennis Hohman from Beaver Meadow. Also by Tim McIntyre, who had just-left our observatory and was heading north on Rt 77 when he saw the ground flash like lightning. But we weren't the only witness, amateur astronomers from Niagara Falls Canada , Rochester and Watertown ,N.Y. were outdoors and enjoyed the colorful fireball painting the snow and sky.

———— Carl Milazzo ————

Anyone Borrow a Club Scope?

Anyone who has borrowed one of the club's loaner scopes would you please contact Neil Dennis via email at Wombat@RealNS.com or by phone (322-7596) so he can update the data base. We presently have 3 'scopes' on loan, and he only knows of one member who has one.

SPECTRUM DEADLINE

The deadline for the July / August issue is

June 15 NO EXCEPTIONS

Send all submissions to Tim McIntyre

157 Dartwood Dr. Cheektowaga, NY 14227

E-Mail TMcint9320@aol.com Phone: 668-8322

Preferred format is typed or PC readable WordPerfect for DOS 5.1 or earlier, MS Word for DOS Scanning available

BAA ANNALS

by Rowland A. Rupp

5 YEARS AGO - In April 1994 we heard from Tom Dey, a long-time amateur astronomer and optical engineer at Kodak. His topic was on the physiology of the eye and observing. Carl Milazzo spoke in June on the many amateur astronomy conventions he has attended over the years.

The announcement that the History of the Buffalo Astronomical Association was available appeared in this SPECTRUM. It still is available for \$7.50 (plus \$1.50 if you want it mailed). It covers the history of our association from its founding to 1993. For some of our new members, who might wonder how the club developed for well over half a century, this is your chance to find out. If interested, contact me at 839-1842.

Leslie Martin's final installment of a three-part article on the history of theories of the origin of the solar system appeared in this SPECTRUM. The second of two articles on "Amateur Astronomy in Poland" by Lech Jaszowski was also included. A note in Edith Geiger's "Spy and Tell" announced that Larry Carlino was busily constructing his 28-inch telescope, while eagerly awaiting arrival of the long-overdue mirror. The first star party of the summer was to be held at the Rupp's summer cottage at Lime Lake.

10 YEARS AGO - Ten years ago our dinner meetings were held in May. We changed the date because we thought that if prospective new members were introduced to the club when Beaver Meadow Observatory opened to the public in April, they might be reluctant to attend a dinner for their first meeting. Our speaker at this event, held at the Big Apple restaurant in Cheektowaga, was Larry Carlino. His topic was "Stalking the Wild Planetary Nebula". "Photographic Showcase" was the theme of the June meeting, where members were invited to show off their astrophotography results.

Fred Price's sketch of Mars, made from his observations in 1988 with his 8-inch reflector, showing considerable detail, appeared in the SPECTRUM. Fred's book, The Moon Observer's Handbook, was the main selection for the Astronomy Book Club for March. Orrin Christy submitted an observation report on an aurora seen on the night of March 12-13. Other BAA members who observed this event were Jack Empson, Dan Marcus and Bob Hughes. Ed Lindberg's "Instrument Notes" dealt with the damage that can result to the eye when viewing the sun, and with methods for safely filtering the sunlight for solar observing.

15 YEARS AGO - In May 1984 we had a question and answer meeting with a panel of six BAA experts that included Ernst Both, Michael Idem, Jack Mack, Carl Milazzo, Fred Price and John Riggs. Jeff Pignatora from the Lockport Astronomy Association spoke at our June meeting on "Galaxy Clusters". We had an observation report on Mars as seen in 1984 by Larry Carlino. Larry emphasized the need to "train the eye" and to use color filters if one is to see fine detail on the Martian surface and in its atmosphere. Other observation reports were submitted by Michael Idem, Darwin Christy and John Riggs. Edith Geiger wrote a profile of Tristan and Deborah DiLapo.

25 YEARS AGO - At our May 1974 meeting, Dr. Martin Green, a Westinghouse physicist from Elmira, spoke on "Astrophysics and the Amateur Astronomer". For June, it was strictly business—reports and elections; having speakers for the June business meeting was a later innovation. Fred Price wrote an article for the SPECTRUM on seldom observed lunar formations. His premise was that significant features located in a jumble of lunar terrain are less frequently observed than are similar features located in isolated regions.

35 YEARS AGO - Here is the announcement for the May 1964 meeting as given in the SPECTRUM. "The program will consist of a lecture which will be the 7th in the Millman Series entitled 'Galaxies of Stars' a basic classification of the extragalactic galaxies". I wonder what that was all about. Reports of the activities of the BAA's special sections was the order of the day at the June meeting. Ernst Both reported on the Observing Section, Paul Redding reviewed the activities of the Elementary Study Section, and Ron Clippinger reported on the Advanced Study Section. A list of star parties planned for the summer was given. They were to be held at Kellogg Observatory (Museum of Science), Newstead Observatory (BAA) and at Camp Spruce-lands. Parties were also scheduled at the homes of Ernst Both and Ron Clippinger.

Spy and Tell

by Edith Geiger

Patty Rupp, M. D. and Michael Hodge will be married June 5th in Lyme, New Hampshire. Best wishes, and may the years ahead fulfill all your dreams.

Kenneth and Lynn Schmidt are new members. Ken works on the Buffalo section of the Thruway from Victor to Ripley, fixing toll machines. Lynn is secretary for the Williamsville School District. They have 13 cats which they care for, hav-

Continued next page

Spy and tell cont.

ing obtained them through 2nd Chance which is an alternative to the SPCA.

The Regal Cinema invited the B.A.A. to come out again and put on a display in front of their theater at Transit and Werhle Dr. **Karl Buennagel**, **Joe Orzechowski**, and **Carl Milazzo**, along with some former members set up their telescopes for viewing. As a result, the B.A.A. gained a few new members. Several 1000's of patrons came to see October Sky which is based on a true story about a coal miner who became a NASA engineer; all dealing with 1957 and the Russian satellite, Sputnik, which eventually led to a meeting with John Kennedy, convincing him that we should go to the Moon.

Michael Andrzejczak enjoys his pets: a dog, a parakeet, and a hamster. He has a demanding job as he clears trucks coming through customs from Canada to the United States.

In the beginning of March, **Bob Titran** was contacted again by WBFO regarding the visibility of the planets in the night sky.

Orrin Christy is a gifted and highly successful inventor, having received 22 U.S. patents since 1984, the first being on optical systems, from Calspan. He has received four patents in the last three months and was named Inventor of the Year at an award dinner sponsored by Niagara Frontier Intellectual Properties Association. He also received a semi-finalist certificate for a patent awarded to him last year on Field Effect Toning, a direct way to deposit toner images onto paper.

Congratulations to **Clark R. Chapman**, well-known astronomer, and son of the late, very active former BAA member and renowned physicist, Seville Chapman. The Division for Planetary Science of the American Astronomical Society awarded Clark the 1999 Carl Sagan Medal for Excellence In Public Communication of Planetary Science

STARRY EYES

Yes! They're out there for anyone and everyone to gaze upon in wonder ... those little incandescent balls of gas. But, like a fine Bordeaux or a painting by Monet, your appreciation will be enhanced when shared.

So, what about a Star Party? Better yet, host one yourself (or with a friend!) BAA Star Parties are a great opportunity to test out your equipment, spot some faint fuzzy that you've never seen before, and meet others who share your enthusiasm for the heavens.

Your own home, the BAA's observatory at Beaver Meadow, or any other spot to which you may have access are all good places for your Star Party. You're free to schedule your Party for a weekday or a weekend night. You may provide refreshments, and you can invite others to bring snacks for the group. Rain or shine is the least confusing policy, though rain dates are a possibility. If the skies aren't cooperating, maps, books, slides, equipment, toys and stories can fill the evening. You'll need to provide a clear, concise map and directions to your party for inclusion in the Spectrum.

Call me, **Don Knecht @ 838-2456 (897-5656 @ work)**, for more info and to schedule your Star Party. Help us fill the calendar with celestial dates!

ARTICLES WANTED FOR SPECTRUM

STAR PARTIES

LIME LAKE STAR PARTY —The Ruppss will hold their annual picnic-star party at their cottage at Lime Lake starting at 1:30 PM, **June 26, 1999**. They will supply hot-dogs, hamburgers and beverages. Bring a dish to pass. There will be a chance for swimming, boating, badminton and astronomy. The cottage number is 316 and the telephone number at the lake is 353-4636. If you plan to attend, please let the Ruppss know at their Buffalo number of 839-1842 or at bn094@freenet.buffalo.edu. Don't think you can't come if you didn't respond, there'll be enough for all.

Beaver Meadow Observatory — **Anthony Davoli**

On Friday night June 18 Anthony Davoli will be hosting a star party at Beaver Meadow. Festivities begin at 7 pm. Contact Anthony at 826-1068 for more info.

NOTE: Call Rowland Rupp for directions to his star party. The map I have is not clear and not worth printing

THANKS for a Job Well Done

A general cleanup of the observatory took place on Saturday March 28. The volunteers did a great job and it really shows. In addition, the water damaged ceiling tiles and trim moulding in the computer room was replaced. It now looks terrific, a very professional looking job. THANK YOU to all of those who participated including: Neil Dennis, Dan Marcus, Ed Czapla, Frank Chalupka, Anthony Davoli, Dennis Hohman, Don and Tom Knecht, Tim Leary, Tim McIntyre, Bill Aquino, Rick Pason, Wade and Lynn Sigurdson.

— Bill Aquino —

OBSERVATORY NEWS

by Dan Marcus

I will be volunteering at the next board meeting to be Observatory Co-Director with Neil Dennis.

The 10" Meade LX200 that was graciously donated by Jack Tinnerman has been repaired by Bill Aquino and will be at Frank Chalupka's for further testing until Neil Dennis (and help) build a storage cabinet to secure it. The Goal is to get it out to the Observatory, test it for use with the CCD camera, test it for visual use, then decide which purpose it would be best suited for. At that time we can determine how to best incorporate it into the Observatory.

The Board has approved the purchase of a Laser collimator to facilitate aligning the scopes at the Observatory.

12" news: CCD users have been troubleshooting the periodic error in the 12" drive. After improving the Polar Alignment it was determined that the spur gear attached to the worm would slow down and speed up in conjunction with it's 5 spokes! The board has authorized the purchase of new gears, and to replace the drive motor which has a bad bearings. When these repairs are done I hope the camera's periodic error mode will enable us to take 1 to 2 minute unguided exposures with the CCD camera..

Loaner scopes: Neil Dennis has volunteered to be coordinator for the loaner scopes. If you wish to use them he is the person to see. The new 6" loner scope is ready for member use. Bill Smith will be Dobsonize 8" The Robert Kartys Memorial Scope. We feel this will make it much more user friendly.

As usual this year we will be holding day time activities in conjunction with the Audubon Center. If you can help out by giving lectures, manning the solar filter, showing people around, plan picnics, and just plain having fun!

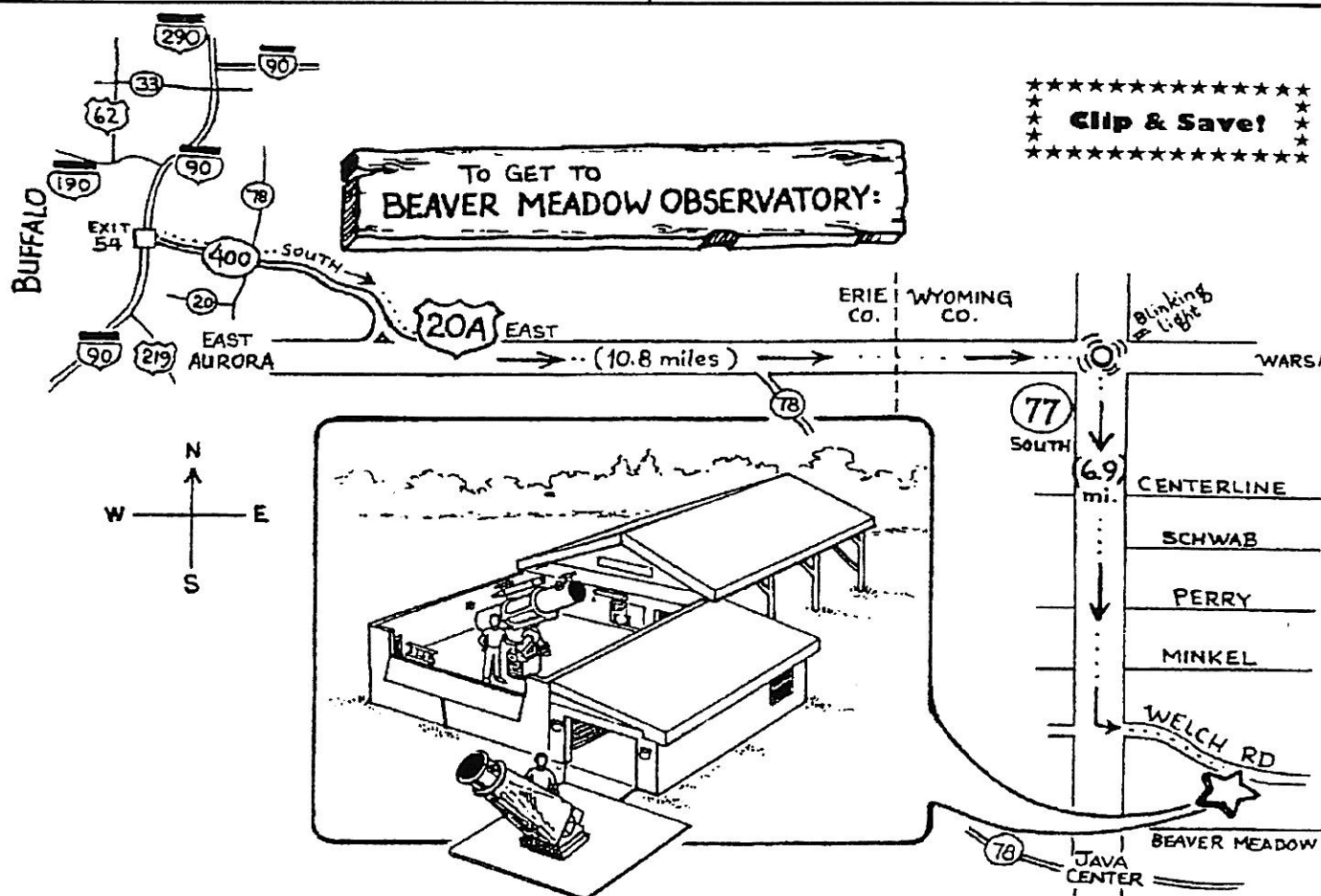
Here is the Schedule!

Saturday May 15: Spring Open House! The Observatory will be open from 10am till 5pm with public night to follow! There will be a bring a dish to pass dinner from 5pm to 7pm! So come on out, HELP, and enjoy Spring at the Observatory.

Saturday/Sunday June 12/13: Beaver Meadow's Trash and Treasure Sale! Come on out and support Beaver Meadow. The Observatory will be open 10am to 5pm/ 1pm to 5pm. We will be doing our usual show, and need the usual help.

Saturday July 31: Beaver Meadow will be hosting a Midsummer's Eve Festival we are not obligated to be there from 10am to 5pm but it would be appreciated. Maybe someone would like to do this one as a club star party???

CCD camera classes will be on hold for the summer but on clear nights you can bet Bill Aquino, Frank Chalupka, or Dan Marcus will be using the camera! Feel free to check with us as sometimes we need some encouragement to go out.



★ **Clip & Save!** ★

scopes continued from page 2

One would think that the bigger the scope, the more the stars one would see. Unfortunately the bigger the scope, the narrower the field of view. The faster the focal-ratio a scope is, the wider the field of view. For example, a f5 scope will show a view that is twice as wide as a f10. An eyepiece with a diameter of .96 inches will show just a little piece of the sky, as compared to a 1.25 and 2 inch eyepiece. A 1.25 will be richer but the 2 inch eyepiece will be twice as rich as the .96 diameter eyepiece.

You may be wondering why richfield scopes haven't been a more popular scope over the last few decades. For one; over the past 20 years, only two short articles have been written on the subject in Sky and Telescope. If you wanted a richfield scope, you had to make one yourself. The only permanent one on the market then was the Edmund Scientific "Astroscan 2001". Twenty years ago there was no high quality eyepieces for scopes of fast focal ratios, nor any nebula filters. With no detailed star charts many amateurs with a 3 inch scope jumped past the richfield scope and got a 12 inch, because of aperture fever. Also amateurs didn't know all the objects that would look so spectacular, and some views can't be beat in a richfield scope. For example; the Pleiades is engulfed in all its nebulosity, all 3 degrees of the andromeda galaxy simultaneously with it's two satellite galaxies. the entire beehive cluster M44. M6 and M7 as a double cluster and with an oxygen filter and dark sky NGC 7000 the North American / Pelican nebula. A richfield scope can also show you ; all 3 segments of the Veil nebula in Cygnus , the pinwheel galaxy M33 in Triangulum, the entire Orion nebula and sword and with an oxygen filter the California nebula in Perseus. Often ,large low surface brightness objects or large and loose open clusters look at their best and are much easier to locate in a richfield scope.

In the July-Aug issue of THE SPECTRUM last year, Tom Bemus compiled a list of objects to observe with a richfield scope. The following are some objects that I would like to add to his list: Barnards galaxy also known as NGC 6822, M27, the loose globular cluster NGC 5897, the alpha Perseus Association, and Barnards loop in Orion with a oxygen filter and dark skies. The galaxies NGC 2403 in Camelopardalis, and NGC 6946 on the Cygnus-Cepheus border

A richfield scope will quickly become your favorite scope after scanning the summer milkyway, and seeing vivid dark nebula everywhere from a dark observing sight. It will become your favorite scope after tracing out a comet's tail.

With an ordinary 10 inch scope on the evening of July 22 1975 from Beaver Meadow, comet Kobayashi-Berger-Milon, was seen with

a tail only one degree long. But with a 5 inch richfield scope, the tail was 5 degrees long and to the naked eye, this 5th magnitude comet showed no tail at all. Rich field scopes are the best scopes for the Messier marathons each spring and on windy nights, they are rock steady. Other advantages of richfield scopes are: very portable, lightweight, compact, quick setup and take down, and most are inexpensive. Finders and clock drives are not necessary, nor is any ladder.

Fortunately starting last year, several commercial richfield scopes have come onto the market besides the Edmund Astroscan , which is a 4.1 inch f4.2 reflector with a 3 degree field of view for \$ 350. Coulter Optical sells an 8 inch f4.5 Dobsonian for \$ 400. Orion sells an 80mm f5 refractor for \$ 249. If You win the lottery, you will want to purchase Tele Vue's 101mm f5.4 refractor for \$ 4,050. If you weren't so lucky then maybe your budget may allow you to have the Orion 6 inch f5 Skyview for \$600, or maybe the Orion 8 inch f4 reflector, with an equatorial mount and clock drive for \$ 1,300. But don't forget the used scopes on the internet or at Stellafane or Riverside. One jewel that came out in 1985 by Celestron was the 4 inch f3.5 Comet Catcher, a nice reflector with a sliding focuser. Two years later it went off the market, just as Halley's comet vanished from the sky.

DID YOU KNOW ?

ASTRONOMICAL FACTS

109 earths can be stretched along the diameter of the sun, its volume could hold one million earths, and its mass is 300,000 earths. Energy pours out at a rate of 4×10^{26} watts the equivalent of over 10 trillion 100 w light bulbs and is over 4.6 billion years old. It should last 5 billion more.

Arcturus is 20 times larger than the sun.

Aldebaran is 40 times larger than the sun.

Betelgeuse would fill the solar system past the asteroid belt.

Mira the long term variable star in Cetus varies in brightness due to its expansion and contraction . At its smallest it would fill the inner solar system past earth. At its largest it would approach mars and would be 150X the suns diameter .

continued on back page

BEAVER MEADOW OBSERVATORY

The observatory is open to "checked out" members any time. Call Neil Dennis (322-7596) to get checked out. Public nights are held on the 1st and 3rd Saturday nights April through October. There is "members only" viewing after every public night. Help is always needed and appreciated for our public events. You don't need a lot of experience to help out. Stop by and be an "observer" and see just how easy it is. The "vets" will show you how.

DID YOU KNOW ? Cont.

Mu Cephei is one of the largest stars known. Its diameter would fill the solar system up to the planet Saturn. This is about one thousand times the diameter of the sun.

The companion of the **Sirius** binary star system (Sirius B) is ten thousand times fainter than Sirius and is only the size of the earth.

The lunar crater **Clavius** could contain much of New England.

The great red spot on **Jupiter** is a huge storm system which is larger than the earth. Scientists calculate that the winds blow at 400 km/ hr and has been observed in the planets atmosphere for over three hundred years.



CLUB T- SHIRTS/SWEATSHIRTS FOR SALE !!!

That's Right, you could be the proud owner of one of these T-shirts for \$ 15.00 . These 50/50 cotton blend shirts are black and contain the same logo that's on the front page of the Spectrum. The club also has sweatshirts with embroidered logo available in black or navy blue. The sweatshirts require a \$ 5.00 deposit and cost \$ 30.00 each. Help support and promote the Club with a touch of class.

Contact Bev Orzechowski for more info.

FOR SALE !!

Your item could be here .

NEWSLETTER OF THE BUFFALO ASTRONOMICAL ASSOCIATION INC.

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