

THE SPECTRUM

Volume 1, Issue 1

September/October 1998



President's Message

Our common interest in our hobby of astronomy, is what has brought us all to join the BAA.

Being a member gives one access to the telescopes, computers, CCD's and other equipment at Beaver Meadow. Please take advantage of this benefit and get yourself "checked" out on the use of these facilities. (see Bill Aquino or Neil Dennis) if you have not done so already. These facilities are there for all of us to use.

The Board members will help you with any questions about the club or astronomy. We may not know all the answers, but we will find someone who does. This is part of our responsibility as Board

members, but **YOUR** responsibility is to come to us with your problems, questions or suggestions. The only way to change club policy is through the board. **YOU** vote for the officers and Board members and anyone who wants to change things should Get Involved and run for a position or be active in Volunteering to help with various club projects. The BAA is not the Board's club—it is YOUR club. The Board needs more feedback so we can give you a better club.

This year the sun is showing an increase in sunspot activity. I would like to see us being active in public showings in a safe manner. Also in the

evenings, when the moon and eventually the planets come around, we should give the public a chance to see these wonders in a place closer to home. (Delaware Park for example) For this we would need Volunteers. I would like to encourage members and guests to take advantage of the refreshment portion after each meeting so we can get to know each other.

In closing, please remember that this is our hobby and if you are doing it right—a hobby should be fun.

Gene Witkowski

genewit@localnet.com



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It's Time To Renew Your Membership!

Your Buffalo Astronomical Assn. Membership is about to expire! To renew your membership for the Sept 98 to Sept 99 membership year, send your check payable to the BAA to: Joe Orzechowski 125 Roycroft Blvd. Buffalo, NY 14226, or see him at the September meeting. Individual memberships are \$15 and family memberships are \$20. Quite a bargain for all the benefits the club provides!

Officers

Gene Witkowski~ President
Bob Hughes~ Vice President
Steve Kramer~ Secretary
Bev Orzechowski~ Treasurer
Dr. Jack Mack~ Museum Rep.

Board Members at Large

Joe Orzechowski, Bill Smith
Bob Titran

Fellow Representative

Rowland Rupp

Observatory Directors

Neil Dennis, Bill Aquino

Membership Director

Joe Orzechowski

Spectrum Staff

Tim McIntyre~ Editor

Lunar Crater Plato - A Mystery Solved

The lunar crater Plato has been under intensive telescopic scrutiny for over a hundred years. It seems to have had a fascination for lunar observers, partly because of its prominence and partly because of mysterious happenings within its walls that have frequently been observed over the years. The sixty-mile diameter Plato appears elliptical in outline as seen in Earth-based telescopes owing to foreshortening of the actual circular shape because of its nearness to the lunar limb.

The almost flat grey floor of Plato is speckled with a multitude of tiny craterlets, white spots and patches and numerous faint white intersecting streaks. These features exhibit "variability" that appears to bear no relation to illumination angle or libration. The white streaks seem to exhibit changes in their extent and visibility; among the many charts of them made by different observers of the past there are strange discrepancies. The pattern of streaks "develops" as the sun rises above the crater floor and seems to vary from lunation to lunation. The craterlets exhibit curious variations in visibility and "come and go" in a mysterious manner.

The four most prominent craterlets on the floor of Plato are easily visible in a six- or eight-inch telescope in steady seeing conditions and under low angle illumination when the craterlets are filled with shadow - see the accompanying chart. Sometimes these appear like typical craterlets, i.e., shadow-filled depressions; yet, at other times they look like tiny blister-like elevations. I have seen both appearances quite unmistakably and in different photographs taken with large telescopes at lunar sunrise. How does one explain this?

One possibility is that some volcanic activity still occurs on the moon. Maybe the craterlets expel gas and dust during the lunar night. When the sun rises the craterlets themselves are obscured by the huge domes of dust rising above them -- which is what would happen in the near vacuum of the lunar "atmosphere". Presumably the sun's heat would disperse the dust clouds and the blister-like appearance would be replaced

continued on back page PLATO

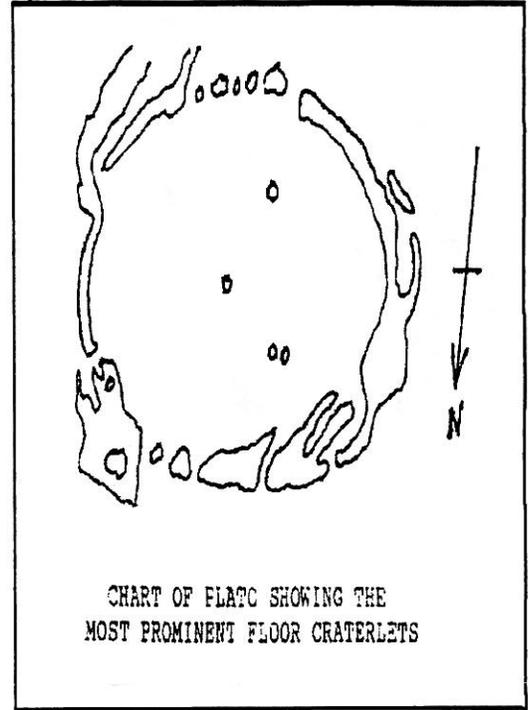


CHART OF PLATO SHOWING THE MOST PROMINENT FLOOR CRATERLETS

This article by Fred Price is the second part of his lunar observation article titled The Lunar Formation Rutherford in May/June 98 Spectrum.

Web Watch - Interesting Astronomical Web Sights On the Net

Interactive NGC/ Messier Catalog

<http://www.seds.org/~spider/ngc/ngc.html>

Wow! This is one great spot worthy of adding to your computer's bookmark. With its own built in search engine you can look up info on any NGC/Messier object Complete with image and links. Tim McIntyre

Supernovae in NGC / IC Galaxies

<http://www.ggw.org/freenet/a/asras/supernova.html>

For anyone interested in supernovae this is your sight. It contains newly discovered supernovae and where to find them along with links and great supernovae of the past. Tim McIntyre

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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Monthly General Meetings Notices

September 11, 1998 - Beginning Backyard Astronomy 7:30 PM

On the prowl for that killer asteroid ? Eager to explore strange new worlds ? Whether you want to find the next "comet of the century." or are just interested in the night sky, the Buffalo Astronomical Association (BAA) invites you to attend our talk on Beginning Backyard Astronomy. This hour-long presentation will introduce you to the hobby of amateur astronomy and help you begin a rewarding journey across the galaxy. It's the first part of our 1998-99 lecture series for the beginning astronomer.

Topics covered in this first lecture will include: GETTING STARTED WITHOUT GETTING LOST IN THE DARK .FAMILY ASTRONOMY ON A BUDGET . RESOURCES FOR THE BEGINNER . WHAT IS (AND ISN'T) NEEDED. Contact Bob Titran for more information.

October 9, 1998 - CCD Imaging 7:30 PM

George Fazekas , a professor at Monroe Community College and CCD guru Gregory Terence will give a talk on CCD imaging .

Meetings are held on the second Friday of the month from September to June in the New Science Building Auditorium at Buffalo State College on Elmwood Ave. We hope to see you at these meetings and as usual refreshments will follow. Gene would also like to get these meetings started ON TIME. So if you do straggle in late please be quiet and courteous . THANKS

Profile of YOURS TRULY

By Edith Geiger

Timothy M. McIntyre

Tim, a pleasant, industrious, lighthearted fellow, was born in Niagara Falls, N.Y., as were his three sisters. When he was 6 or 7 years old, the family moved to West Seneca where he attended West Seneca East Elementary School. In junior high, he developed an interest in science and astronomy, along with model aircraft building which he continues to enjoy.

At West Seneca East Senior High, Tim was in the industrial arts program. During those years he found that he had musical ability and a good harmonic sense, so with perseverance he taught himself to play electric bass and keyboard. This lead to his playing in rock groups in the Buffalo area.

After high school, he enrolled in Bryant & Stratton Business Institute, majoring in technical electronics. He graduated in 1990 and worked as a warehouse truck driver both before and during his student days at Bryant & Stratton.

His first job after finishing college was as an avionics technician at Aero Instrument & Avionics, Inc. in N. Tonawanda . This summer marks his 7th year with the company, and this past year he received his FAA Repairman License which gives him more paper work, headaches, and inspection privileges along with having to "sign my life away," on work orders. He keeps up with technical literature related to his job, and is absorbed with everything to do with computers.

One of Tim's pastimes in which he finds great satisfaction is his membership in a radio control aircraft club of 50 members, known as Wing & Rotor of Western New York. He joined in 1992. He is also involved in radio helicopter and acrobatic scale aircraft.

Tim was enjoying astronomy, but didn't realize that our organization existed until he saw an astrophoto by Dan Marcus in The Buffalo News in 1996. He then checked out our society and became a member of the BAA the same year. His astronomical interests include: lunar, planetary, galaxies, and especially deep-sky. He owns an 11 " Schmidt- Cassegrain telescope, and has taken his first photos of the Moon.

As the new editor of the Spectrum, Tim is embarking on a position of immensity, complexity, and responsibility, and brings to it, enthusiasm, zeal and dedication.

SEEING IS BELIEVING

By Halina Biernacki

STRUCTURAL COMPARISON

BODY (& Radius)	REGION	% RADIUS	PRIMARY COMPONENTS
MERCURY 1,516 mi	Atmosphere	?	helium (barely detectable, possibly originating in solar wind)
	Crust	2%	rock silicates, metals
	Mantle	24%	mostly silicates, some metallic oxides?
	Core	74%	iron-nickel (approx. 80% of total mass!)
VENUS 3,760 mi	Atmosphere	3%	carbon dioxide, nitrogen, argon, sulfuric acid, water vapor
	Crust	.5%	rock silicates, metals
	Mantle	52.5%	mostly silicates, some metallic oxides
	Outer Core	30%	liquid iron-nickel
	Inner Core	17%	solid iron-nickel
EARTH 3,963 mi	Atmosphere	2.5%	nitrogen, oxygen, argon, carbon dioxide, water vapor
	Crust	.5%	rock silicates, metals
	Mantle	44.5%	mostly silicates, some metallic oxides
	Outer Core	35%	liquid iron-nickel
	Inner Core	20%	solid iron-nickel
MARS 2,108 mi	Atmosphere	2%	(very thin): carbon dioxide, nitrogen, argon, oxygen, water vapor
	Crust	1.5%	rock silicates, metals
	Mantle	60%	mostly silicates, some metallic oxides?
	Core	38.5%	liquid iron-sulfide, some nickel
JUPITER 44,350 mi	Ring	8%	charged dust particles
	Atmosphere	12%	cloud decks of ammonia, ammonium hydrosulfides, water above molecular hydrogen and helium
	Mantle	68%	liquid metallic hydrogen and helium
	Core	20%	metals, silicates, ices
SATURN 37,300 mi	Rings (many)	900%	ice, dust, rock
	Atmosphere	50%	cloud decks of ammonia, water, phosphines above molecular hydrogen and helium
	Mantle	28%	liquid metallic hydrogen and helium
	Core	22%	metals, silicates, ices
URANUS 15,900 mi	Rings (11)	35%	ice, dust, pebbles
	Atmosphere	30%	cloud decks of methane above molecular hydrogen, helium and methane
	Mantle	42%	ices of ammonia, water and methane, somewhat ionized
	Core	28%	metals, silicates, ices

What you see may not be what's actually out there, not because you need new eye wear, but because of the molecular composition of the atmosphere. Humans are the result of chemistry, among other factors entering into the equation are social conditioning, nutrition and location.

Contemporary humans are quite distinct from ancient evidence. Through evolutionary selection skeletal size has significantly changed as one obvious example. Chemical ratios on Earth have also been altered through spans of time affecting life forms at every level. Horses were small, lizards were giants and vegetation huge. Terrestrial nitrogen and oxygen proportions were different from today. Temperature, pressure and volume affects chemical changes on a molecular level resulting in subtle changes in all life forms. Adaptation parallels with evolutionary processes and is the law of survival.

Technically, humans evolved out of the chemistry available on Earth and its atmosphere. It seems reasonable to conclude that we have become what we are as a result of the elements. The reasons why humans talk differently in each culture can not be summarized into one factor, there are many. However, the composition of our material form is the result of the same chemistry housed in every other human. Even our five senses and emotions are directly linked to chemical reactions.

Clear vision implies that all the components which comprise the eyeball are at peak performance, affected equally by flawless structure, correct optic nerve connections, brain neurotransmitters, and blood chemistry. We all have knowledge what bad sugar metabolism does to eye sight - as in diabetic. Eyes are one of the sensory instruments used in gathering data, and evolved from the elements accessible in our terrestrial atmosphere.

Every environment has its characteristic chemical structure, as do those creatures who live in that ecosystem. The average composition of dry air on Earth at or near the surface consists of

eleven substances 78.08% nitrogen, 20.95% oxygen, 0.93% argon, 0.03% carbon dioxide, 0.0018% neon, 0.0005% helium, 0.0002% methane, 0.0001% krypton, 0.00005% hydrogen, 0.000008% xenon, 0.00005% ozone; while the ocean is made up of sixty chemical elements.

Lungs work well for mammals and gills get the job done for fish. Eyes are no different. Nocturnal animals have excellent night vision, but human biology didn't evolve this ability, so we studied this capability and developed instruments which help us see in the dark with infrared technology. Birds possess navigational radar and sonar skills which the military harnessed for its aircraft. Even the Hubble Space Telescope, HST, is merely a giant replica patterned on the human eyeball and its spectrography translates chemical compositions into lines and color, much the same analysis going on between the brain and the eyes rods and cones. It's an over simplification of how current technology developed for space observation. Our vision is only as good as the endowment of the eyes chemical mix and supporting instruments which translate the chemistry of an atmosphere and refracting ability. The chemistry of our environment dictates how we do things ... how we breath ... how we see ... and ultimately how we think.

The chart above briefly discusses the structural comparison of Earth to the other planets in our solar system. It is possible, that we may actually not be seeing what there is to see, because we're looking at alien worlds, such as Mars, with instruments built with eyes used to seeing things with the chemistry of Earth. Since the factors of pressure, temperature, volume, ratio and intensity are different on alien surfaces we need to look at those worlds with alien chemistry. While a spectrometer will record chemical composition it does not record images. HST contains a lens which appears clear to our vision in a nitrogen based atmosphere. What sort of lens is required to see worlds with carbon dioxide as the central molecular structure of its environment as is found on Mars, or a place such as Saturn with a cloud deck of ammonia water, phosphines above molecular hydrogen and helium?

What consideration has been given to building instruments specific to the world we're attempting to study. Another problem for extraterrestrial viewing

NEPTUNE 15,385 mi	Ring-Arcs (4)	98%	dust, dark matter
	Atmosphere	30%	cloud decks of methane above molecular hydrogen, helium and methane
	Mantle	40%	ionic ocean of hydrated protons, ammonium, and hydroxyl
	Core	30%	metals, silicates, ices
PLUTO 728 mi	Atmosphere	?	(very thin): methane, probably subliming or venting from crust
	Crust	1%	methane ice, other ices
	Mantle	20%	mostly water ice, some other ices
	Core	79%	mixture of rocky silicates and ices
SUN 432,500 mi	Corona	500%+	H-75%, He-24%, other 1% (highly ionized)
	Chromosphere	2%	same (less ionized)
	Photosphere	.2%	same (less ionized)
	Convective	18.8%	same (less ionized)
	Radiative	58%	same (highly ionized)
	Core	23%	He-64%, H-35%, other 1% (totally ionized)
MOON 1,080 mi	Atmosphere	?	traces of argon, neon, hydrogen, helium possibly vented from crust
	Crust	6%	rock silicates
	Mantle	72%	mostly silicates, some metallic oxides?
	Core ?	22%	iron-nickel (evidence is conflicting)

is that we don't really know how to create an eye piece based on extraterrestrial chemistry because we don't know what clear vision is in an alien atmosphere. It seems to me that it'll be a while before we make contact. Perhaps there's life in other parts of our solar system which we'll never see, if we continue to believe what's out there must be seen with the chemistry in our atmosphere.

SPECIAL THANKS

I would like to thank all the volunteers who helped make Astronomy Day at Beaver Meadow a success: Bill Aquino, Jack Mack, Rowland Rupp, Joe Orzechowski, Mark Reville, Mike Ried, Neil & Carol Dennis, Bob & Laurie Titran, Dan Marcus, Bob Hughes, Frank Chalupka, Tom Bemus, Tim McIntyre, Tim & Kathy Leary, Anthony & Ruth Mohler.

Apologies to anyone I may have omitted.

Gene Witkowski

SPECTRUM DEADLINE

The deadline for the Nov/Dec issue is

October 10 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

Astronomical Happenings—TIME WELL SPENT IN ASTRONOMY

September - This is a great month to observe Jupiter, reaching opposition at mid-month

Date	Time	Elevation	Direction	Event Description
5	7:30 to 10:00PM			Public Night at Beaver Meadow Observatory Full Moon
6	6:50 AM	10°	E	Venus close to the bright star Regulus, Mercury near by
	10:50PM	23°	SE	Jupiter is 0.5° north of the Moon
7	7:00 AM	11°	E	Mercury is close to the bright star Regulus, Venus is nearby
9	7:00 AM	46°	SW	Saturn is 2° north of the Moon
10	7:00 AM	9°	E	Mercury passes 0.4° north of Venus
17	7:15 AM	32°	E	Mars is 2° north of the Moon
18	7:15 AM	21°	E	Moon passes 0.6° south of the bright star Regulus
19	5:00 to 7:00 PM			Telescope group meeting
	7:00 to 9:30 PM			Public Night at the Beaver Meadow
23	1:37 AM 5 AM			Autumn Equinox
26	7:00 PM to ?			Members Night at Beaver Meadow
	7:00 PM to ?			CCD Classes

October - October is normally the most cloud free month. Last month of public nights— STOP BY

Date	Time	Elevation	Direction	Event Description
1	8:15 PM	28°	S-SE	Uranus is 3° south of the Moon
3	4:30 to 6:30 PM			Telescope group meeting
	6:30 to 9:00 PM			Public Night at the Beaver Meadow- near Full Moon
4	11:15PM	40°	S-SE	Jupiter near the Moon
5	7:15 PM	Horizon	E	Harvest Moon rises
6	6:30 AM	32°	E-SE	Mars passes 0.9° north of bright star Regulus
	10:30PM	30°	E-SE	Saturn is 1.8° north of the Moon
9	11:30PM	19°	E	Moon near the bright star Aldebaran
15	7:00 AM	40°	SE	Mars, Moon, and the bright star Regulus all very close
17	4:30 to 6:30 PM			Telescope group meeting
	6:30 to 9:00 PM			Public Night at Beaver Meadow - No Moon
19	5 AM	60°	SW	Moon 0.3° north of bright star Aldebaran
21	* *			Orionids meteor shower - new moon - excellent
24	6:30 PM to ?			Members Night / CCD classes
31	7:30 PM	36°	SE-S	Jupiter passes 0.2° north of the Moon

Cat's Eye Nebula Observation

Date of Observation: 14 July 1998

Time of Observation: 10:00 P.M

Location: Beaver Meadow Observatory

Observing Conditions: Good

Instrument: 20" Dobsonian and 12mm Tele-Vue eyepiece

Observed: NGC-6543, the "Cats-Eye" Nebula.

Comments: NGC-6543 is a planetary nebula in the constellation Draco and one of the highest surface brightness nebula in the northern sky.

It is also referred to as the "Cats-Eye" nebula and lies midway between the stars Zeta and Delta Draconis. At low magnifications this object appeared as a fuzzy star. However, when viewed at higher magnification (using the clubs 12mm eyepiece) it was easier to distinguish as a planetary nebula. The object showed a slight elongation from the north to south and a definite bluish-green color. Surprisingly, the stellar center was even visible when using averted vision and higher magnification. The planetary nebula NGC-6543 is estimated to be 3000 light-years away and 1000 years into the planetary phase. Which is quite young considering this phase of a stars life is thought to be 50,000 years long. At this young of an age (for a planetary nebula) the stars expelled outer shells have not had much time to expand and cool, causing the object to appear small and bright in our telescope. The Hubble Space Telescope imaged this object on September 18, 1994 and the image shows the "Cats-Eye" to be one of the most complex planetary nebula yet discovered. It contains concentric gas shells, jets of high speed gas, and unusual shock-induced knots of gas. The best possible explanation for such intricate structures may be that this is actually a double-star system. If so, the stars are too close together to be resolved. A copy of the Hubble image has been posted on the observatories bulletin board (thanks Ken Schmidt) which shows the nebula's intricate structure and beautiful symmetry.

Frank Chalupka, Bill Aquino, Rowland Rupp

and the Genessee Community College Astronomy Class

Volunteer Needed to put together a Celestial Delights Chart similar to the ones above for 1999

Observation Report— Sagittarius, Scutum, Scorpius

JULY 26, 1998. 10:00pm to 1:00am

BEAVER MEADOW OBSERVATORY. 20 INCH OBSESSION USING 22mm NAGLER EYEPIECE.

SEEING CONDITIONS: SUPERB ESTIMATED MAG 6.

The goal of this observing session was to focus primarily on the globular clusters in the Southern Milky Way region and there are quite a few. I started my star hop at a "much" observed cluster M22 located about 2 deg. NW of Lambda Sagittari. The 20 in. scope resolved the entire cluster into thousands of tiny pinpoints. M22 appeared a little larger and less compact than the famous M13 cluster in Hercules and ranks number 2 after M13 in my book. About 1 deg. NE of M22 lies NGC 6642. This small globular appeared as an almost featureless blob, although a faint hint of resolution was apparent around the outer perimeter of the cluster. "Hopping" clockwise around Sagittarius, the next stop was M28. Located about 3/4 deg. NE of Lambda Sagittari this small globular was resolved to the core. From M28 I jumped about 1/2 deg. NNE of Gamma Sagittari. There lies a pair of small featureless globs NGC 6528 and NGC 6522 in the same field of view. NGC 6522 helped form an almost perfect "Y" asterism with 2 fairly bright stars at the "upper corners" and 1 bright star below the cluster. About 1 deg.

SW of Gamma Sagittari lie 2 small and faint clusters NGC 6558 and NGC 6569. No detail seen here. As I paused and scanned the bright Milky Way naked eye, I noticed a small fairly bright hazy patch of light about 15 deg above the horizon. Aiming the scope on this region revealed open cluster M7. Through the 22mm Nagler, this bright cluster was shaped like a sideways ladder with bright stars forming the "rails" and dimmer stars forming the "steps". A lower powered eye piece is needed to take in the whole cluster. Continuing on the clockwise glob hunt around Sagittarius, the scope was aimed about 2 deg. SE of Epsilon Sagittari. This is the home of M69 and NGC 6652 which lies about a degree to the SW of M69. M69 was a small and very compact globular with only the outer fringes being resolved to individual stars. NGC 6652 was very small and featureless which seems to be typical of the NGC globular clusters. Located about 1 1/2 deg. East of Zeta Sagittari, I observed the small, compact but very bright cluster M54. The scope could not resolve the core of this compact cluster with the 22mm Nagler. The last glob cluster on my Sagittarius list was M70. Located between Zeta and Epsilon Sagittari, this small glob was not resolved with the 22mm Nagler, but I did notice 2 pairs of bright stars directly below the cluster that

looked like binary candidates to me. With Scorpius getting low in the SW, I decided to take a quick peek at globulars M4 and M80. M4 was fully resolved and looked like a scaled down version of M22. M80 was somewhat small and not resolved to the core. Getting away from globulars, I star hopped to the open cluster M11 in Scutum. At one degree SE of the star Eta, this open cluster is a "WOW" object. Also known as the "Wild Duck" cluster, this highly dense and bright cluster has 1 very bright star in the center that really stands out from the thousands (?) of other stars. I also noted that while on my star hop to M11, I bumped into a small / faint but very dense open cluster. Research proved it to be open cluster NGC 6683, located about 2 degrees W of M11. With my eyes getting tired the final stop was to M16 in Serpens. This was a fairly rich open cluster with a faint cloud of nebulosity that looks like it cuts the cluster into 2 parts. With the OIII filter in place, the nebulosity known as the Eagle Nebula really stood out elongated North to South in the eyepiece. No detail in the nebula was noted. (I guess you need the Hubble to see the giant pillars of gas that made the headlines a couple of years ago.)

By Tim McIntyre



Spy and Tell by Edith Geiger

Gene Witkowski reports that on Saturday, July 18th, sometime after 11 P.M., a gathering at Beaver Meadow of about 10 people saw a brilliant iridium satellite(-6) **Dan Marcus**, knowing the time and spot in the sky where it would appear, set the alarm clock and the satellite appeared right on schedule. It was spectacular and all were very impressed.

Carl Ericson and his wife went to San Francisco last May to visit their son and daughter-in-law. On the way back they stopped at Star Hill Inn in New Mexico, often visited by astronomers. They stayed 3 days and 3 nights. There was a place up in the mountains with a platform on which were many telescopes one could rent along with binoculars. Unfortunately, it was sunny every day, but cloudy every night, which was very disappointing, especially at a place known for dark skies. While in the area, they visited nearby Santa Fe and Toas. Carl, now retired, had a general contracting firm under the name George Herman & Associates.

On the evening of July 3rd, **Joe Orzechowski**, **Mark Reville**, and **Carl Milazzo** were at the Regal Cinema on Transit and Wehrle

OBSERVATORY NEWS

Thank You for your Generosity !!

The following members have recently made donations to the observatory. Your generosity is greatly appreciated. THANK YOU! **Bill Smith** has donated blank diskettes for the computers and **Dennis Hohman** has donated an excellent video tape titled "The Man Who Colors Stars". If you are interested in astrophotography this is a must see tape. It is about the work and techniques of Dr. David Mailin, who is considered by many to be the world's finest astrophotographer.

New Computers

A very special THANK YOU needs to be extended to **Mike Buccieri** who has recently donated a pair of DEC 486 computer systems to the observatory. These computers have replaced our old "home-brewed" 486 which seemed to be constantly breaking down on us. The new machines are running great and Dennis has them setup as follows: The first machine is operating on Windows 3.11 and is networked to the observing room computer, this machine will be used primarily for image processing tasks and has the CD recorder installed in it. The second machine is operating on Windows 95 and will be used to run educational software and planetarium programs.

Bill Aquino



BAA ANNALS by Rowland Rupp

5 YEARS AGO - Ernst Both was our September 1993 speaker. His topic was one of his favorites - Fifty Years of Mars Research. In October we heard from Dr. James LoPresto about the "Sun's Variable Luminosity". The addition to the observatory was about 75% complete, according to the report from Dan Marcus, the Observatory Director at the time. He noted that the new 20-inch telescope was being put to good use and was working well. He included a thank you to all the people who contributed time or money to this project. I won't repeat the list because there were thirty names on it. observation reports were from Bill Smith (President then) and Joe Orzechowski.

10 YEARS AGO - One of our long time members, Larry Hazel, spoke to us on "Galaxies" to start off the new season. Phil Cizdziel, who majored in astronomy at the University of Buffalo, talked on "The New & improved Infrared CCD Detector" at the October meeting. We had a new group of officers starting in September. They were: President - Doris Koestler, Vice President - Rowland Rupp, Secretary - Ken Biggie, Treasurer - Darwin Christy. Rowland Rupp submitted an article for the SPECTRUM on "Astronomy - 1929", which was a commentary on Sir James Jeans' book "The Universe Around Us." The point was made that even the most eminent of astronomers some sixty years in the past had many wrong interpretations of astronomical data. We had observation reports. One, on the sun, came from Marilou Bebak, another was from Rowland Rupp and the last was from Carl Milazzo. Ed Lindberg wrote on how to chose the magnifying power best suited for a given telescope in his "Instrument Notes."

15 YEARS AGO - Clifford Cunningham of Kitchener, Ontario, was our guest speaker in September 1983. He spoke on "Amateur Photoelectric Photometry of Asteroids". A long time observer of asteroids, he was then chairman of the Asteroid Section of the International Amateur and Professional Photoelectric Photometry Group. In October, our own member, John Raymond, gave us a talk on "Spectroscopy and the Chemistry of Space". John has a PhD. in Chemistry. The new set of officers for the 1983 to 1985 term were: President - Rowland Rupp, Vice President - Ken Biggie, Secretary - Ken Kimble, Treasurer - Edith Geiger. The BAA received a gift of two telescopes, astronomy books and back issues of Sky & Telescope from Mr. and Mrs. Coons. Edith Geiger's membership profile was on James Russell who, for a time, was our Observatory Director. There were observation reports by Carl Milazzo, Rowland Rupp and Shaun Hardy. Darwin Christy reported on his pilgrimage to Stelafane 1983. Three courses in astronomy were announced in the SPECTRUM. One, "Wonders of the Night Sky", was to be taught by Claire DeBus at the Museum of science where she would use the museum's Starlab Planetarium as an instructional aid. (People keep asking me about the museum's planetarium, and I always tell them there isn't one. What happened to this

BEAVER MEADOW OBSERVATORY

The observatory is open to "checked out" members any time. Call Bill Aquino (731-9366) or 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.

Spy and Tell cont. from page 7

Drive for the showing of Armageddon. They brought 4 telescopes and showed some astronomical objects to about 500 people attending the theater. They also passed out applications. One observer, a non BAA member, had seen all the Messier objects.

Carl Milazzo had 2 of his photos in the Gallery in the September issue of *Sky & Telescope* (pp. 136-137) and has been promised that 2 more will appear in the October issue.

Auggie Grillo, a professional flutist who has played in many orchestras, bands, and ensembles, was photographed as he played the flute in the Canadian Legion Band of Fort Erie for the Friendship Festival at One M&T Plaza, July 3rd. **Larry Carlino** has built a 4" Richfield Refractor.

Willie Janish retired in 1991 as a counselor at Seneca Vocational High School in Buffalo. He enjoys the sky and was filled with a sense of wonder as he watched Hale-Bopp. He learned of the BAA while visiting the observatory at the Buffalo Museum of Science, after which he joined our association in September 1997. He has a 4" X102 mm Vixen Refractor, and 10x50 binoculars, and is especially interested in comets, deep-sky, clusters and nebulae.

At the Mack's Star Party, July 11th, **Bob Titran** took pictures of the Sun in H alpha light, showing prominences.

Carl Milazzo found his trip to the Stellafane Convention, July 24-25, to be worthwhile as usual. About 2000 people gathered to explore clear skies on both nights, and saw 50 stars down

to 6.6 magnitude. The telescopes were nice and were appreciated by people from all over the world. Carl gave a talk at the convention on "Barndoor Photography."

Jeff and Janice Gardner will be going on a camping trip to the Adirondacks in the fall when the autumn leaves and mountains are sparkling with color. Jeff will have his Tele Vue Pronto with him to enjoy the star-strewn stillness of cloudless nights. Jeff and Janice are enthusiastic bicyclists and have peddled around Cayuga Lake. Jeff recently purchased a recom-bent bike for Janice. He is in a family apartment business involving construction, remodeling, many extras, and plenty of energy.



BAA ANNALS cont from page 8

one - is it still there?) Another class at the museum was presented by the BAA with instruction from Edith Geiger, Ken Kimble, Al Kolodziejczak and me. The third class was to be taught by Art Gielow using the Whitworth Ferguson Planetarium at Buffalo State.

25 YEARS AGO - In September 1978 we met at the Museum of Science, where we heard from our President, Darwin Christy, on his specialty - "Micrometeorites". Next month, Fred Price spoke on "Amateur Lunar Observations." A news note in the SPECTRUM announced that the Lockport Astronomy Association would host an NFCAA meeting in November. An article by Ernst Both was entitled "About Distance in the Solar System". He imagined how long it would take to drive to the planets at 60 mph. (Your fifth generation grandchild would get to the sun in 175 years!) Joan Riggs' "Deep Sky Observing" also highlighted this issue. Edith Geiger reported in her "Spy and Tell" column that Larry Ha-

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to be held on the campus of the University of Buffalo in October. The speaker was Fred Price whose topic was "Amateur Lunar Observations". (It seems we heard about that talk earlier in this Annals. "Why not? A good talk is always a good talk.) , didn't find a September SPECTRUM: maybe we didn't meet in September back then. A "Telescope Tip" explained how to polar align a telescope that lacked setting circles.



Wanted: Articles pertaining to astronomy, observation reports, book/equipment reviews, merchandise for sale for publication in The Spectrum
Remember: This is YOUR newsletter so please contribute. Many thanks to Rowland Rupp, Edith Geiger, Malina Biernacki, Fred Price, Bill Smith, Bill Aquino, Bob Titran, Bob Hughes and Gene Witkowski for doing THEIR part.

Your Editor

USEFUL PHONE NUMBERS

New to the club? Don't know the answer to any questions regarding your membership? Would like to join the club? Have a suggestion pertaining to club policies or Monthly Meeting topics? All these questions can be answered with one phone call .

President - Gene Witkowski

Phone 876-4301

Vice President - Bob Hughes

Phone 833-2407

Membership - Joe Orzechowski

Phone 839-9109

Board Member - Bill Smith

Phone 664-0841

Board Member - Bob Titran

Phone 774-2742

Board Member - Rowland Rupp

Phone 839-1842

Plato continued from page 2

by the typical craterlet appearance. But this is speculation.

The mystery was solved several months ago when Gene Witkowski showed me a videotape recording of sunrise on Plato which he took on a night of superb seeing with his 18-inch Newtonian reflector. As we watched, the floor craterlets first appeared as typical shadow-filled depressions. When the seeing became slightly tremulous, I was astonished to see the craterlets looking like tiny elevations! Then as the seeing settled down again, the craterlets reappeared in their normal guise as depressions. This shows that the blister-like appearance is an optical illusion.

In tremulous seeing, the craterlet images are in slight rapid oscillatory motion around a central point. The moving images are presumably combined by and interpreted by the eye-brain system as blister-like elevations.

This observation suggests that some tiny objects on the lunar surface recorded on charts and maps as elevations or even as domes may in fact be craterlets seemingly transformed by this illusion into blister-like structures when the seeing is tremulous. It would be a useful project for users of large telescopes to check systematically such objects to ascertain their true nature.



Coming up in the November/ December issue of the Spectrum

Rowland Rupp and Fred Price give us their analysis on measuring the fraction of the sun's disc covered by the moon during a solar eclipse.

Bill Smith shares his technique of using geometry to find objects in a telescope.

CLUB T-SHIRTS FOR SALE !!

That's Right, you could be the proud owner of one of these 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. Help support and promote the Club with a touch of class. Contact Gene Witkowski for more info.

NEWSLETTER OF THE BUFFALO ASTRONOMICAL ASSOCIATION INC.

Tim McIntyre
157 Dartwood Dr.
Cheektowaga, NY 14227

Phone: 716-668-8322
Email: TMcint9320@aol.com



THE SPECTRUM

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ROWLAND RUPP
c/o ARCHIVES
132 BURROUGHS DR
SNYDER NY 14226

