

THE SPECTRUM

Newsletter of the Buffalo Astronomical Association Inc.

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Mar - Apr 1998

MEETINGS NOTICE

FRIDAYS: MAR 13 APR 10

Mar 13th: "Annual Dinner Meeting" - Mars researcher and guest lecturer John Grant presents MARS at the Classics V Banquet Hall and Conference Center, 2425 Niagara Falls Blvd, Amherst-Tonawanda NY. Bar @ 6:00 pm; dinner @ 7:00 pm. Tickets \$17.50 each. Dinner selections: Burgundy Beef, Chicken Cordon Bleu, Shrimp Bowtie Pasta and Pasta Vegetarian. Call Banquet Chairwoman Melissa Marcus (773-5015) or BanquetBee Bev Orzechowski (632-7091). Reservations by Mar 1.

Apr 10th: "CCD Imaging, the Next Step" - Greg Terrence

is an accomplished CCD imager who will present an overview of CCD imaging and demonstrate how to get the most out of your image via post-processing. He has had many images published in Sky & Telescope and Astronomy magazines.

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

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

ANNUAL DINNER MEETING

We have a 'BIG BANG' combination again this year with a terrific restaurant, menu and speaker. John Grant is a Buffalo State College professor who will be on leave soon to do Mars work for NASA. This dynamic speaker should not be missed. See the enclosed sheet for details. Note the deadline of MARCH 1!

SPECTRUM EDITORSHIP AVAILABLE

Bev and I have had a great time this past 3 years but it is time to fold up the tent. Bev's work schedule has her travelling out of the country a lot more so to maintain her Treasurer's duties (and leave time for more fun astronomical pursuits) something had to give.

I've been wanting to do more with public events and will switch Spectrum time over to that avenue. It's also good to get a fresh viewpoint on the newsletter. You'll may even learn something new.

While this one is done on Microsoft Publisher, the next editors may use any means they want. The new editors **DO NOT** start from scratch as:

- ♦ There are 5 regular columnists
- ♦ I will do an observing article
- ♦ Common, repeatable announcements etc. are on file
- ♦ We can provide old Publisher files, formats, layouts etc if desired.
- ♦ Member Steve Kramer has volunteered to do folding, stamping & mailing!

Please contact Bill Smith at 962-3412 if interested.

In any event, the July-August issue will be our last. Thanks!

Messier Marathon

Come one, come all to this annual event on Saturday, February 28th. Held at Bill Smith's & Carol Lorenc's new farmette near Cherry Creek in the southern tier (physically in town of Charlotte). Great horizons, pot luck dinner, overnight camping indoors (or out!), lots of scopes (to 20" dob) and gear. **GREAT FOR NEWCOMERS to astronomy and NEW MEMBERS** — get up to speed quickly. Telescope problem fixing a specialty. Come early for x-country skiing & hiking. On-site petting zoo (horses, dogs & cats).

Located 1.6 miles west of Cockaigne downhill ski resort on county route 66. Call 962-3412 and we'll send out a map and event list.

Bill Smith, 1880 Thornton Road, Cherry Creek, NY 14723

Interesting Web Site

The Space Environmental Center runs a web site worth visiting:

<http://www.sec.noaa.gov>

Solar activity, auroral displays & lots more ...

- Bob Titran

MEETINGS CANCELLATION POLICY

If, for any reason, (most likely snow or ice storms), there might be cause for cancellation of the meetings of the BAA, 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 BAA 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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BAA web site via Mark Reville: www.webt.com/mreville/indexbaa.html
TAXACOM computer bulletin board - 716-896-7581

MEMBERSHIP CORNER*Joe Orzechowski*

Just a short note this month. I'd like to thank those who have renewed their membership in the BAA and I would urge you all to make the most of your memberships. Please join us at one of our monthly meetings, attend one/some/all of our star parties this summer or attend a public event at our observatory. If you have any questions about what goes on at these events, give me a call at 632-7091 days or 839-9109 evenings.

MEMBERSHIP DIRECTORY

The membership directory is being revised for distribution in April. We need any change of information! E-mail addresses are being added so please check last year's listing and advise me of any changes.

MESSIER MARATHON

This event held at Bill Smith & Carol Lorenc's farmette near Cherry Creek is quite a blast. If you are new to observing or the BAA, then do consider attending this one! Call Bill @ 962-3412 for a map & goings-on.

OBSERVATORY VOLUNTEERS

Bill Aquino is starting to line up help for the public season. You don't need to be an expert! You'll have a lot of fun and learn a lot too. Typically there is a cookout before the public arrives and Bill also is starting a telescope builder's class. Call Bill, 731-9366 for more info.

BAA ANNALS*Rowland A. Rupp*

5 YEARS AGO - The 1993 March-April SPECTRUM didn't say much about coming talks. For March the topic was Giordano Bruno; for April we were to hear about an undergraduate project in radio astronomy. The names of the speakers were not given.

President Bill Smith announced we had raised \$14,300 for improvements at Beaver Meadow Observatory. The Buffalo Foundation granted us \$5000 for the twenty-inch telescope, and the Audubon Society \$6000 (eventually nearly \$7000) for construction of the addition to the building. The remainder, raised from club members, was used for accessories.

Bill also submitted an article on globular clusters. Leslie Martin's article was on the non-existent planet Vulcan, Ed Lindberg's Instrument Notes dealt with lens aberration. An anonymous article addressed the issue of light pollution vs. crime, and suggested more light doesn't necessarily deter crime.

10 YEARS AGO - Jack Mack was our March 1988 speaker—his topic was "The 1987 Super Nova". We heard about short wave reception from astronomical sources from Bob Hughes at the April meeting. Bob was Observatory Director at that time.

Al Kolodziejczak contributed an article advising new members about text books, supplementary books and observing guides for the benefit of new members. Unfortunately, this kind of material quickly gets outdated. Leslie Martin compared calculated temperatures of the planets to the actual temperatures we knew at that time, and Ed Lindberg wrote about dark adaptation of the eye. Edith Geiger's biography personality was Dave Sepulveda.

15 YEARS AGO - March 1983 saw Jesse Eichenlaub of the Syracuse Astronomical Society speaking on "The Amateur Space Telescope". Next month, our own Gil Brink talked about "Lasers and Lunar Ranging". He included a laser demonstration. Carl Milazzo was organizing a trip to the David Dunlop Observatory in Toronto—a joint venture between the BAA and the Lockport club. Carl also submitted an observation report,

Michael Idem, a resolute observer, analyzed the relationship between "Deep-Sky Observing and Light Pollution". Michael's articles were always highlighted by quantitative results as well as qualitative observations. Future BAA president Doris Koestler was the subject of Edith Geiger's BAA Profile. Steve Kramer reported on a Radio Shack "Astrological Computer". I don't think Steve found it to be a particularly valuable asset astronomically or astrologically.

25 YEARS AGO - The March 1973 meeting featured Ernst Both who spoke on "Astrophotos (?) Most People Don't Bother With". (I wonder what that was about?) Orrin Christy showed a movie, and Gretchen Schork outlined our plans for a show at Eastern Hills Mall. In April, the BAA's John Riggs spoke on "The Elements of Deep Sky Observing". We also viewed the first sketches of the proposed new observatory at Beaver Meadow. President Darwin Christy announced the appointments of committee chairmen for the new observatory program. They were: Liaison with Beaver Meadow—Ernst Both, Finance and Fund Raising—Bob Kartyas.

John Riggs wrote an article on deep sky observing, particularly in Leo. Fred Price wrote on the life of a personnel friend of his who had recently died, the British solar observer, William Baxter. Edith Geiger reported in "Sky and Tell" that Fred had recently met the famous English amateur, Patrick Moore. She also noted that Irv Goetz's "flying saucer" photograph was to appear the May 1973 *Scientific American*. (Before any UFO enthusiasts get excited, I have to tell you it was an astrophoto with a film blemish that produced a beautiful depiction of the conventional version of a flying saucer.)

35 YEARS AGO - In March 1973 Jack Lawrence spoke on "Visitors from Space", and Ron Clippinger gave a talk on John Brashear, the telescope maker. In April, Walt Semerau spoke on constructing an equatorial telescope. Also, BAA member, Rev. George Walker spoke on the coming solar eclipse that would be nearly total in Buffalo. The SPECTRUM printed a newspaper gaff that reported bouncing a radio signal off the star Cassiopeia A, a mere 10,000 light-years away. (Such power, such patience!)

**THANK YOU!!!!****Telescope donation to the B.A.A.**

One of our members, Gertrude "Jerry" Cook (continuous since 1951) has generously donated a telescope and tripod to our club.

The telescope, a 3 1/2 inch Questar, belonged to her son Bruce, who contracted cerebral palsy at the age of four. Although confined to a wheel chair, Bruce took immense pleasure in showing others the wonders of the universe.

Jerry and Bruce were active in attending summer star parties, participated in B.A.A. study groups, and helped with B.A.A. mall exhibits. Bruce was the SPECTRUM editor from 1962-1967.

Bruce passed away in 1986 at age 49. With his Questar scope, others will now enjoy viewing the heaven's wonders as Bruce did. *Thank you Jerry for your wonderful gift.*

Gene Witkowski

Officers

Bob Hughes - President (833-2407)
Gene Witkowski - Vice President (876-4301)
Lynn Sigurdson - Secretary
Bev Orzechowski - Treasurer (839-9109)
Dr. Jack Mack - Museum Representative

Board members at large

Joe Orzechowski - Bill Smith (962-3412)
- Bob Titran (774-2742)
Rowland Rupp - Fellow Representative
Joe Orzechowski - Membership
(839-9109)

Observatory Directors

Neil Dennis (322-7596) & Bill Aquino (731-9366)

SPECTRUM STAFF

Bill Smith - Editor / Layout
Bev Orzechowski - Circulation

BAA SPECIALIZED SECTIONS

Observing & Astrophotography Study Groups

Our club has had a tradition, for many decades, of specialized study groups or sections; for example instrument, observing, and astrophotography. With the loss of study group leaders Ed Lindberg, John Riggs and Ken Kimble, these sections have become inactive. Recently our President, Bob Hughes, asked for volunteers to restart these study groups and I would like to offer to help with both the Observing and the Astrophotography Sections. Hopefully others will soon reactivate other sections, or even start a totally new one -- maybe computers?

Please call me, Carl Milazzo, at 688-4869 if you are interested in attending either or both study groups, and let me know what is convenient for you. For example, we could get together regularly the third or fourth week of every month. Perhaps we can meet on Fridays, Saturdays or Sundays; 7, 7:30, or 8:00 pm in the evening; at Buff State, Beaver Meadow, at someone's home, or some other location. The meetings would be held come rain or shine; but, if clear, they could be held outdoors or moved to a darker location. We could start a phone tree alert for clear skies and possibly get together whenever skies are clear.

In these Observing and Astrophotography Sections, I suggest an emphasis on practical, active OUTDOOR amateur astronomy -- exploring ideas which you will likely put to use in your own backyard on any clear night. We can start out the Astrophotography Section with camera basics, tripod shots, piggyback, and how to make a barndoor equatorial platform.

The Observing Section might deal with the following topics:

- a. How one can dress comfortably and yet stay warm, even on the coldest nights.
- b. Easy tricks on finding your way in the sky without getting lost.
- c. Why and how to keep an observing logbook.
- d. Observing techniques.
- e. Where to find the best observing locations in Western New York and how to find more.
- f. How to select equipment and accessories.
- g. Different observing strategies, projects, and top objects.
- h. Charts, catalogs, books, and photographs as charts -- their strengths and weaknesses.
- i. What to expect to see after a year, 5 years, 15 years, etc.
- j. What are the many reasons to observe and how to prevent from being burnt out.
- k. The advantages of observing as a group.
- l. And, finally, what progress has been made in observing in recent decades, and what improvements can be expected in less than 5 years.

Again, if you are interested in working with me to explore these concepts, please give me a call at 688-4869.

- Carl Milazzo



SPY AND TELL

Edith L. Geiger

Steve Kramer was a consultant to the Metropolitan Museum of Art in New York, on their possible purchase of an alleged Rittenhouse clock. Steve was able to add to their evidence another decisive factor, that it is not a Rittenhouse as the tide dial was made for London and not Philadelphia. Steve was referred to the museum by the Smithsonian Institution. Congratulations to Steve who is a recognized authority on Rittenhouse, his famous clocks and orrery.

Tristan DiLapo has made an improvement on his 17.5" Dobsonian, which he built in 1984. He switched to a helical Crayford Focuser. Larry Carlino is a busy fellow doing CCD imaging; constructing a two car garage attached to his home, plus teaching in his regular position at Williamsville South.

In 1938, Darwin Christy was a professional photographer in his home town of Ripley, where he started on his career in 1935 at age 15. On the morning of Jan. 27th of that year, his father woke him by shouting, "Sonny: Let's go down to Niagara Falls, the Falls View Bridge has collapsed!" Darwin grabbed his postcard size folding camera and off they went by train. His father worked for the railroad and had passes. As it was very icy, they wore ice creepers so they could walk without slipping. When Darwin was taking the picture a park policeman appeared and ordered him to get out asking why he was there, and if he had seen the signs, which Darwin had not. He and his father headed back to Ripley where Darwin processed the film and made about 1000 postcard prints, selling them for a nickel apiece, which netted him a good return, at that time.

On Jan 10, 1998, the Tonawanda News published a copy of the photo Darwin took in January 1935, along with a write-up. If you would like further information, call Darwin.

~~ more to come in the next issue ~~



BOOK REVIEW

MARS: THE LIVING PLANET

Do you remember Viking? Two spacecraft landed on Mars in 1976, sending us pictures of the rocky Martian terrain, Martian weather reports and, most importantly, results of experiments that searched for evidence of life on this distant world. "Most importantly", because that was the stated primary mission for these spacecraft. For those hopeful that life would be discovered, disappointment eventually set in, although for a time there was a flurry of hope when initial results were obtained.

Barry E. DiGregorio's book, Mars: The Living Planet, reviews in detail the experiments performed two decades ago, and makes a case for the discovery of life on the planet. Apparently, just before the book was to be published, the controversial evidence for Martian fossils obtained from meteorite ALH84001 became known, and a good summary of those findings is also presented.

Barry DiGregorio lives in Middleport, New York, just to the east of Lockport. He has been an amateur astronomer since his youth and is now trying his hand at science writing. This is his first book, and it represents an exhaustive effort of self-education and consultation, as evidenced by the extensive sections of acknowledgments and references for further reading.

I won't attempt to go into detail about the material--there is too much to do it justice. It centers around the Labeled Release (LR) experiment designed by Dr. Gilbert V. Levin, in which a sample of soil is given a drop of radioactive nutrient; later, if microorganisms are present, their

(Continued on page 4)

SPECTRUM DEADLINE

The deadline for the May-June issue is
Apr 10th.

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

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

-- scanning available --

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

Spectacles in the Skies

Comets are believed to originate in the Oort cloud which is a large ball of dust and gas and debris surrounding the solar system. This Oort cloud is a leftover from when the solar system was formed and the debris is bits of matter that was not pulled into a planet by the forces that built the whole solar system. For size, if you visualize the whole solar system as being the size of a bb shot, the Oort cloud would be the size of a basketball gym with our bb sitting in the center.

When a passing star disturbs something on the edge of the Oort cloud, it may be deflected into an elliptical (oval) orbit that ends up passing near our sun. If that happens, we have a comet. Depending on the size of that comet's orbit, it may pass within sight each 75 years like Halley's or 2400 years like Hale-Bopp. There are many comets in space with varying orbits, usually several are discovered each year by astronomers that make a specialty of comet hunting. Most of these are not visible to the naked eye and so go unnoticed by people in general.

COMETS and HISTORY

Over the centuries, the spectacular sight of a comet in the sky has often frightened or frightened as the case may be.

History tells us of many events caused by the appearance of a comet. In one of the early tales, after Julius Caesar was killed, his nephew claimed that a comet was Caesar's soul being transported to heaven. His nephew, Augustus Caesar, used this omen to aid himself in becoming the leader of the Romans. Several other Roman leaders were killed or deposed during later "comet" years, so the Romans believed that the appearance of a comet signaled a change in their leadership.

Later on in history, the Aztecs believed that their god, Quetzalcoatl, would return after giving a sign. When a large comet described as a "flaming ear of corn" appeared in the sky just before the landing of Montezuma's force, the Indians believed that this was a sign that Montezuma was their god returning. The Indians then gave their country to him with little resistance. This, of course, started the Spanish domination of South and Central America.

In the early 1800's in this country, a religious sect -- "The Millerites" -- believed that the world would end in the 1840's. By 1843, an estimated 100,000 people had joined this sect. In that year, what may have been the brightest comet ever appeared. It was so bright, it was even visible during the day. This comet appeared without warning and was perceived by the Millerites to be a divine omen and won over many converts. It was a day of "great disappointment" for them when the world continued to exist.

HALLEY to the 90's

The last great comet scare occurred when Halley's comet appeared in 1910. The comet's orbit was so close to earth that people feared an impact. Newspapers of the day posted headlines about the comet bouncing off the earth. The earth did actually pass through the tail of the comet -- this started rumors that poisonous gases would cover the earth. Many people built gas-proof rooms with instructions from scientists. The scam artists had a field day selling anti-gas pills or inhalers. The voodoo cultures sold conjure bags to protect their believers.

The superstitions continued with comet Hale-Bopp, a supposed portent of supernatural happenings that brought about the mass suicide of a cult in California.

A mention should be made of a few of the other more famous comets from recent history.

One, in March 1843, passed just 120,000 miles from the sun and was 60 times brighter than the full moon. It was easily visible during daylight and was the "Millerites" omen that I mentioned before. Its tail was straight and stretched out over 300 million miles.

In Sept 1882 another comet passed very close to the sun. It was about 17 times brighter than the brightest star. As it was passing in view, its core broke up into 5 pieces that could be seen by telescope. One of these pieces eventually disappeared, probably melted away into dust and gas.

In 1948, astronomers in Africa were watching a total eclipse of the sun when they discovered a previously unknown comet that was only visible during the total eclipse as it was so close in line with the sun's orbit. It moved enough so that it was visible later; but, only for a month before it disappeared. It was only visible in the southern hemisphere, so very little

mention of it was made in the north.

Of course, you all remember comet Hyakutake from two years ago. When it was discovered on Jan 31st, 1996 it was about 180 million miles away; but it eventually passed only about 9 million miles from earth. It was originally thought that it would not be much of a sight; but, by the middle of March 1996 it had started to really "light up." The climax happened on March 24th, 1996 when it was as bright as the brighter stars with a tail that spanned over half the sky.

HALE-BOPP

We know that Hale-Bopp was nothing more than a spectacular sight in the sky. It was discovered by both Alan Hale and Thomas Bopp within two hours of each other on July 22nd of 1995. Because of this simultaneous discovery it was identified with both their names. Its scientific name is C199501. The comet traveled at about 20,000 miles per hour and was about 120 million miles away. For reference, the sun is about 93 million miles away.

Hale-Bopp's core was made up of ice and dust and was about 25 miles in diameter. The core was too small to be seen even with a powerful telescope. The coma, or head that we saw was a plume of gas & dust that was evaporated from this core by the sun's rays. This plume was about 50,000 miles in diameter and was forced into the tail away from the sun by what we call the solar wind. Solar wind is a pressure applied to everything in our solar system by the radiation from our sun.

On a really clear and dark night with no moon, by using binoculars, you could see that Hale-Bopp's tail was made of two parts. One was bluish in color, made up of glowing ionized carbon dioxide gas. The other was white, made up of dust particles lighted by the sun's visible rays.

The comet and its tail were easily visible to the naked eye or with binoculars for a few weeks. For those of you who remember, in April 1997 it was in Perseus (northwest) moving towards Taurus. It gradually moved lower and lower in the sky until it fell below the horizon in the middle of May. Comet Hale-Bopp is actually still visible from earth; but, only from the southern hemisphere. When it finally goes out of sight this year or next, it will not return for about 2400 years.

Remember, anyone interested in learning more about astronomy in general and seeing various celestial objects, other than Hale-Bopp, may come to the Beaver Meadow observatory on the 1st and 3rd Saturday of each month, April through November, every year. We have public nights on those dates with telescopes and slide shows or lectures by club members and invited astronomers.



Neil Dennis

Book review: MARS continued from page 3

respiration will be detected by monitoring for radioactivity in the atmosphere of the test chamber. The results were positive, and quite similar to those obtained from soils here on Earth that are sparsely populated by microbial life. Control LR tests of lunar soil showed it to be sterile.

Unfortunately for Dr. Levin, and his colleague Dr. Patricia Ann Straat, other Viking experiments failed to corroborate his findings. But there was controversy over the validity of these other results. In one, the Gas Chromatograph-Mass Spectrometer (GCMS) test, it could not be confirmed that a soil sample had actually been obtained. Perhaps no sample at all had been tested. Besides, tests performed on Earth showed that the GCMS experiment was far too insensitive to find life if it is sparse, such as in Antarctic or desert environments. According to DiGregorio, the LR experiment was ten million times more sensitive than the GCMS.

It is apparent that the author sees Levin as a scientifically persecuted individual. Levin has been thwarted in getting the scientific community to accept his experimental results; the current paradigm is that Viking showed no evidence of life on Mars. His findings were attributed to chemical reactions caused by oxidizing material in the Martian soil, although evidence of an oxidizing agent was not uncovered during the mission. He was ridiculed by many colleagues for his persistence in expressing his view that life had been found. His efforts, some mildly underhanded, to incorporate experiments that looked for evidence of life in subsequent proposed missions to Mars, were repressed. After considerable red-tape he did manage to get a limited experiment aboard the Russian MARS-96, but that

(Continued on page 7)

Observation Report

Date of Observation: 12/21/97

Time of Observation: 7:00 PM (EST)

Location: Beaver Meadow Observatory

Observing Conditions: Very Good

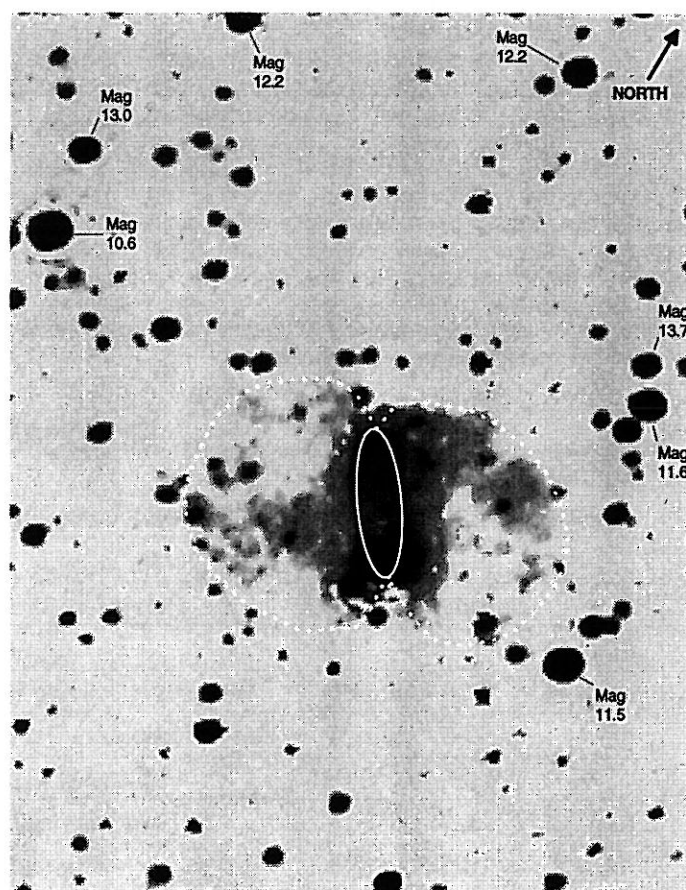
Instrument: 20" Dobsonian w/22 mm Tele-Vue Eyepiece,
Cookbook CCD Camera on a 12" Reflector.

Observed: Planetary Nebula M76 (NGC 650-651),
also called the "Little Dumbbell".

Comments: M76 is located in the constellation of Perseus about 1 degree north-northwest of Phi Persei. It is regarded as the faintest of the Messier objects with a listed magnitude of 11.0 and an apparent size of just 2 x 1 arc-minutes. In the club's 20 inch Dobsonian it appeared as a pearly-white rectangle, almost box-like in shape, with both the top and bottom appearing the brightest and having a subtle dimming towards the center, suggesting a crude "dumbbell" shape. The picture shown below was taken by Frank Chalupka and Dan Marcus with the club's CCD camera on the 12 inch Newtonian at the same time the object

was being visually observed by the Perseus Group in the 20 inch Dobsonian. The contrast-intensified "inverted" image is presented as a reference and has been labeled with magnitude information (from the Hubble Guide Star Catalog). An interesting feature of the CCD image is the faint suggestion of additional nebulous material both on the north-east and south-west sides of the box-like shape. This additional material does indeed exist and appears in the Mount Palomar image shown on page 1436 of Burnham's Celestial Handbook (volume III). Could they be wind blown "bubbles" as described in the recent Astronomy Magazine article "Blowing Cosmic Bubbles" (February 1997 issue, page 36)? If so, that would mean this object is a Bipolar Planetary Nebula. The actual shape of the object (as suggested by the magazine article) is outlined in white on the inverted image. Also of special interest is the remnant of the dying star responsible for creating the nebula. The stellar remnant of M76 has an estimated magnitude of about 16.5 (almost detectable in the image below) and is considered one of the hottest objects known, having a computed surface temperature of 60,000 degrees Kelvin. And that's hot!

The Perseus Observing Group



Observatory News

CCD System

The CCD camera and associated equipment is still out for upgrades and modifications.

Thank You for your Generosity

The following members have recently made donations to the observatory. Your generosity is greatly appreciated, THANK YOU! **Bob Titran** - donated a broom for the equipment garage and four books for our library collection; *The Night Sky*, *The Friendly Stars*, *Astronomy a Handbook*, and *City Astronomy*. Bob also has placed on loan his video tape "Comet Hyakutake". This video is well worth taking the time out to watch. **Neil Dennis** - has donated an outstanding video tape titled "Meteorites", a hammer for the observatory tool-kit, and a small TV set to be used as a "local" display for the VCR machine. **Bill Aquino** - donated a welcome mat for the front door, a pair of slip-joint pliers, and a VGA monitor for the computer. **Bill Smith** has donated an excellent planetarium program titled "Distant Suns". **Joe Orzechowski** has donated a video tape titled "A Brief History of Time" by Steven Hawking. And finally, a special thanks to **Ed Cersani** for repairing the observatories multi-band radio.

CD Recorder

The Board of Directors has approved the purchase of a CD Recorder for our observatories main computer. The recorder allows computer files to be recorded onto a blank compact disk. It will allow large quantities of data to be "carried home" from the observatory and permits almost unlimited amounts of data to be archived efficiently. This is a cost effective way for a large group of people to share a common computer system that has a limited amount of storage capacity. A significant portion of the recorders cost was donated by **Dan Marcus**. This is a very generous contribution and Dan deserves a sincere THANK YOU.

Public Night Volunteers

In order to provide the best possible public night activities dedicated volunteers are required. This year the observatory is looking for three volunteers to sign-up for each of the 13 scheduled public nights during 1998. On each public night we will need; a **Lecturer** to provide a 20 to 30 minute astronomical talk (repeat the talk if it's a busy night), a **Telescope Operator** to run the 20" Dobsonian, a **Greeter** to direct traffic and encourage the public to sign-in and make a donation. If your interested in volunteering for one of these positions on any of the 13 public nights please contact Bill Aquino at 731-9366. And as always the entire membership is welcomed and encouraged to attend our public night activities. Observatories and telescopes are great, but the public really comes out to meet and interact with amateur astronomers.

Computer Seminar

Dennis Hohman will be holding a class on Operating Computers at the observatory this spring. His course is designed for the beginner and will cover all of the basic functions of a graphical interface operating system. If your wondering what that means, then this course is for you. Due to the limited number of computers available at the observatory the class size must be kept to a maximum of (4) students. The class will be offered first on 4 April from 4:30 to 6:30 PM and again on 18 April from 6:00 to 8:00 PM (rain or shine). If you are interested in attending you must register in advance with Dennis (662-2904). First come - first served.

Telescope Group

The Buffalo Astronomical Association is starting a telescope construction, repairing, and modification group consisting of volunteer members. The continuance of this specialized group will depend solely on membership participation. Its purpose is to help club members with the construction, repair, or modification of their telescopes. Initially the group will be led by Neil Dennis and Bill Aquino and will meet at the observatory on the following dates; 4 April from 4:30 to 6:30 PM and 18 April from 6:00 to 8:00 PM. For further details contact Neil at 322-7596 or Bill at 731-9366.

Members Night

The purpose of members night is to provide exclusive observatory access to non-keyed members (especially NEW members). We will try to schedule one members night per month during the spring and fall seasons. Our first scheduled members night will be on 25 April from 8:00 until ?? PM. The observatory will be open to all members in good standing (dues paid). There will be no scheduled activities for these evenings so it will be a relaxed time to come down to the observatory and get acquainted with the equipment. As with all observatory functions this is a rain or shine event.

Display Items Needed

Photographs, drawings, or presentations are needed for the observatories main bulletin board located in the computer room. Gene Witkowski would like the club to freshen-up the display with new material by Astronomy Day (May 2nd). If you would like to display something on the clubs bulletin board please submit it to Bill Aquino by April 25th. Your material should be mounted on stiff poster board and must contain an "easy to understand" caption. Public visitors frequently check-out this display and they should be able to understand your caption. If you have any questions call Bill at 731-9366.

Upcoming Observatory Events

Saturday	Time	Activity	Sunset	Moon Phase
April 4	4:30 - 6:30 PM	Telescope Building Workshop (hosted by Neil & Bill)	6: 45 PM	1st Qtr
--	4:30 - 6:30 PM	Basic Computers Seminar (hosted by Dennis Hohman)	--	--
--	6:30 - 9:00 PM	Public Night Lectures and Observations	--	--
April 11	--	Open Date	7:53 PM	Full
April 18	6:00 - 8:00 PM	Telescope Building Workshop (hosted by Neil & Bill)	8:01 PM	Last Qtr
--	6:00 - 8:00 PM	Basic Computers Seminar (hosted by Dennis Hohman)	--	--
--	8:00 - 10:30 PM	Public Night Lectures and Observations	--	--
April 25	8:00 - ?? PM	Members Night (hosted by Bill Aquino)	8:09 PM	New
May 2	12:00 - 10:30 PM	Astronomy Day / Public Night	8:17 PM	1st Qtr
May 9	--	Open Date	8:25 PM	Full

The Universe - Gravity - A Unified Theory

WHY a unified theory of the universe?

Current physics theories do not explain the ocean tides, the photon (particle or wave), gravity, time, mass, or the electromagnetic field. The low tide, not the high tide, is observed directly under the full moon. This contradicts physics texts, the dictionary, and encyclopedia definitions of tide -- which show a picture of the earth with a bulge of water on the side facing the full moon -- and states that the high tide occurs directly under the full moon. This is an error. It is not conceivable that the moon could pull several feet of ocean tide water around the earth at better than 1000 mph. This would wash away the continents and humanity in a day. My copyrighted theory 1988 A.C. Goodrich; cc023@freenet.buffalo.edu explains the tides as a decrease of kinetic energy and volume of ocean water with an increase of potential energy as the moon direction changes and distance decreases relative to a particular side of the earth's ocean -- maintaining a constant total energy of the universe.

THE FUNDAMENTAL EQUATION AND PRINCIPLE of the universe is one of constant total energy expressed by the following equation (modified Galileo pendulum, Kepler, Newton equation, by Goodrich):

$$T^2 = L^3 / K (M - m)$$

where M is the total energy of the universe, m is the mass-energy in question and T and L are time and distance. This equation is derived from the FUNDAMENTAL EQUATION AND PRINCIPLE of the universe (by Goodrich):

$$m^2 L^2 / T + K (M - m) m / L = \text{a constant } M.$$

The total of kinetic & potential energy of the universe is a constant M.

This grand unified theory defines time, mass, energy, gravity, the photon, other forces and the electromagnetic field as geometric properties of the universe.

See Library of Congress Card Catalog

THE UNIVERSE A UNIFIED THEORY. GOODRICH
and ISBN 0-9644267-1-4. ALLEN C. GOODRICH

The Universe - The Law of Motion - A Grand Unified Theory

THE LAW OF MOTION:

The total energy of a body (the sum of its kinetic and potential energies) at rest or in motion within a system (such as the solar system or the atom), remains unchanged (at rest or in motion, in a straight line or in a curved path), unless there is an acceleration of the mass (a change of its total energy) or a change of the effective sum of the forces on the mass, relative to the rest of the universe (such as a transfer of energy to or from the rest of the universe to the system).

THE OCEAN TIDES are caused by a change of the kinetic energy of the ocean water in a manner that will conserve the total energy of the earth - moon system as the moon changes its potential energy relative to the earth's ocean.

Most people who have walked on the ocean beach and observe the tides, know that they are related to the position of the moon and the sun. Not everyone has taken the trouble to observe the tide relative to a full moon, when the full moon is directly overhead or at its highest point in the sky. One would observe that the tide is lowest and the beach is widest at this time. This is consistent with the U.S. Coast and Geodetic Survey Tables of the tides. Data from these tables is published by many ocean front resort cities along with information on the dates of the full moon. Fisherpersons consider this information very valuable. This information would permit one to conclude that, without exception, the lowest tide occurs exactly when the full moon is at its highest point in the sky. The very fact that this observation does not agree with the current theory of gravitation is justified by the assumption that other factors cause the variation in the time of the highest tide. However, if the moon's gravitation pulled the ocean tide water around the earth at the velocity of the tides, better than 1000 mph, all of the continents would be washed away in less than a day. Tides cannot be the result of a flow of water.

What is the cause of tides?

The grand unified theory of the universe explains the tides as the directional kinetic energy change of the ocean water (a dimensional change) that accompanies the change of potential energy of the earth - moon system as the earth turns under the moon. The total energy, the sum of the kinetic and potential energies, is a constant for the universe and the earth - moon system if no energy transfer occurs between the system and the rest of the universe.

See ISBN 0-9644267-1-4 and THE UNIVERSE

Copyright 1988 Allen C. Goodrich

Allen C. Goodrich

Editors' Note: Last year's "Unified Theory" dialogues among BAA club members Allen Goodrich, Rowland Rupp, and Joe Orzechowski were published in multiple issues of the SPECTRUM and gave us several points of view. We look forward to this year's discussion.



Book review: MARS continued from page 4

probe ended up a fireball in Earth's atmosphere.

Another of Levin's frustrations was NASA's choice of color tone for the Martian landscape, which ultimately shows it to be very red and unearthly. Levin believes the pink sky shown in most NASA pictures should really be blue, and that this color rendition suppresses the greenish coloration on rocks that is evidence of life. There is a curious scene that occurred on the first day that a color picture was received at the Jet Propulsion Lab, where Levin and his teenaged son were viewing the event. The first picture showed a brownish-red terrain, a blue sky and rocks that showed signs of green. According to DiGregorio, a lab technician later went from monitor to monitor changing the tint to display the reddish ground and sky we are familiar with. Levin's son followed the technician around changing the monitors back to the original setting. (No lack of audacity here, is there?) When the Project Director found out, he had the colors changed back to enhance the red and threatened to throw the kid out if he repeated his performance. The Levins may be their own worst enemies.

There is a problem with this persecution theme. The author is very defensive of Levin's actions and reactions and strongly suggests a NASA conspiracy to suppress the evidence for life. The source of this conspiracy is not entirely clear, but anything from religious conviction to the economics of sterilizing spacecraft and taking expensive precautions in returning soil samples that may contain dangerous bacteria or viruses are mentioned. Unfortunately, hints of conspiracy are often phrased as questions like: Why did NASA not consider this? or, Why did NASA do that? It reminds me of the way UFO buffs plead their case for a conspiracy that covers up evidence of aliens. It suggests that scientists are either too dumb to consider all the facts, or that they construct a complex conspiracy for nefarious, though unclear, reasons.

One problem I had was sorting through all the biology presented in the book. Often it was necessary to turn to the glossary at the end to obtain a brief description of a term used earlier, or to search the extensive index to find where the subject was first raised. This may be inevitable because the author has chosen to present information chronologically, which, while it builds the story line, makes keeping track of the science harder. In part, this may be my problem--biology definitely is not my thing.

All in all, if you want to know more about the controversial conclusions concerning life on Mars, or if you like conspiracy, this is the book for you. I bought my copy at Barnes and Noble for \$25. Maybe we should all read a copy and have a vote: Is Mars the Living Planet? Aye or nay?

Rowland A. Rupp

Editor Note: Barry DiGregorio is speaking to our club on June 12, 1998 at Buff State.



JOHN GRANT

Dinner Speaker at the BAA Annual Dinner Meeting Friday March 13, 1998

Dr. Grant was kind enough to provide us with a description of his presentation planned for the BAA Annual Dinner Meeting:

"Mars has long been the subject of speculation about whether life may have evolved at some time in the past. Exploration of the planet during the last ~30 years confirms that many of the geologic processes occurring on the Earth have played important roles in shaping the surface of Mars: massive volcanoes were constructed over extended periods and ancient valleys and channels confirm that water was once fairly abundant at the surface. More recently, some scientists have cited evidence from a Martian meteorite (discovered in Antarctica) and concluded that micro-fossils from Mars are in-hand. A review of the geology of Mars will be followed by a discussion of the possibility that life existed on the planet. Ongoing and future missions geared towards resolving the life-on-Mars issue will also be presented."

He has requested the simultaneous use of TWO slide projectors and TWO screens - which we have enough room for this year. Please make your paid reservations by March 1, 1998. The banquet committee members are traveling and we don't want to miss you!!!!

This year's banquet will be a served sit down dinner for only \$17.50 per person. The room we reserved at the new banquet hall at the Classics V Restaurant and Conference Center, 2425 Niagara Falls Boulevard, Amherst NY seats 30 to 100 people, so we have PLENTY OF ROOM!. In addition, Classics V has a spacious parking lot -- and -- the facility is easy to get to, a mile or so off I-290. Bar and beverages @ 6:00 pm, dinner @ 7:00 pm. Dinner selections must be made at the time of reservation:

- ♦ Beef Burgundy with Mushrooms
- ♦ Chicken Cordon Bleu
- ♦ Shrimp Bowtie Pasta
- ♦ Pasta Vegetarian

Please don't delay making your reservation.

NOTE: If you can, please fill out and mail in the upper part of the reservation form sent to you with the SPECTRUM. Mail payment and form to:

Bev Orzechowski 125 Roycroft Blvd Snyder NY 14226-4557

Paid reservations must be in by March 1, 1998. I am sure you don't want to miss this event. If you have any questions, please contact Banquet Chairwoman Melissa Marcus @ 773-5015.

Inside:

1 DINNER MEETING NOTICE

2 Membership corner
BAA Annals

THANK YOU Gertrude Cook!

3 Specialized Sections: For Members
Spy and Tell
Book Review: Mars

4 Spectacles in the Skies

5 Observation report

6 Beaver Meadow Observatory
Astronomical Happenings

7 The Universe-Gravity-A Unified Theory

8 John Grant, Dinner Meeting Speaker

DINNER MEETING BANQUET INSERT!

The SPECTRUM

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Make checks payable to "B.A.A." please. \$17.50 per person. If you feel like it, please add \$1.00 to defray the cost of the beverage server which we are not including in the \$17.50 price of each ticket.

TOTAL NUMBER OF RESERVATIONS: _____

No. _____ Burgundy Beef with Mushrooms

No. _____ Chicken Cordon Bleu

No. _____ Shrimp Bowtie Pasta

No. _____ Pasta Vegetarian

PLEASE MAIL IN THIS SLIP WITH YOUR CHECK.

The B.A.A. Annual Dinner Meeting

DATE: Friday, March 13, 1998

PLACE: The Classics V Banquet & Conference Center

ADDRESS: 2425 Niagara Falls Blvd (Route 62), Amherst/Tonawanda NY

LOCATION: about 1 mile north on Niagara Falls Blvd (Route 62) off the Youngman Highway (I-290) - Easy to find.

COST: *ONLY \$17.50 per person*

TIME: Beverages & Bar open at 6:00 p.m. - **Gala Sit Down Dinner** at 7:00 p.m.

CHOICES: Burgundy Beef with Mushrooms OR Chicken Cordon Bleu OR Shrimp Bowtie Pasta OR Pasta Vegetarian

GUEST SPEAKER: *Professor John Grant*

--

Mars Researcher and Lecturer
will present a slide show and discuss MARS!!!!

*Split Club CASH prizes!!!! Multiple Prize Drawing
Giveaways and MORE!!!! Plenty of Parking!!!! Elegant
and BARE Banquet Room!!!!*

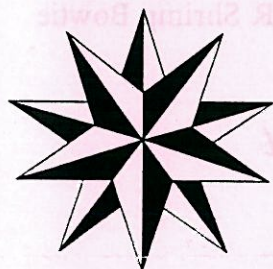
What Will It Be Like This Year? Come and See!

Bring a guest. For Reservations, Please Call Banquet ChairPerson Melissa Marcus 773-5015 or Banquet Helper Bee Bev Orzechowski 632-7091. Your PAID reservation (cash or check) MUST be in by March 1, 1998. You can mail your check to Melissa or Bev, NO CASH IN THE MAIL please.

Place Stamp
Here

BEV ORZECCHOWSKI
125 ROYCROFT BLVD
SNYDER NY 14226-4557

DATE HERE



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