



STAR FIELDS

NEWSLETTER OF THE AMATEUR TELESCOPE
MAKERS OF BOSTON

Vol. 4, No. 2

February 1993

OUR FEBRUARY MEETING...

Thursday, February 11, 1993, 8 p.m.
Phillips Auditorium, Harvard-Smithsonian
Center for Astrophysics

VISION AT NIGHT is the title of this month's talk. It will be given by Dr. Henry M. Pollock III, an ophthalmologist at the Northshore Medical Park.

Please join us at 5:45 p.m. for a pre-meeting dinner with our speaker at the Changsho Restaurant, 1712 Mass Avenue, Cambridge.

COMING UP NEXT MONTH: A talk on planetary orbits by MIT Professor and ATMoB member, Gerald J. Sussman.

JANUARY MEETING HIGHLIGHTS...

Some 62 members and guests attended our January meeting. In the absence of the secretary, the president gave the minutes of the December meeting. Reports from the Treasurer, Observing Committee and acting Workshop Committee Chairmen were given. Sympathy was extended to Phil Rounseville on the death of his mother and to George East on the death of his father. The president announced that an Executive Board meeting will be held in late February. Tony Badessa reminded everyone that the deadline for signing up for the Baxter is no later than the February meeting. George Tucker announced that WUMB (UMass/Boston) needs volunteers to give talks and help out with a observing session on March 27 for an astronomy conference.

The Show-and-Tell part of the program included: A presentation by Ed Dougherty and Bob Heller on the club's vacuum evaporator that described how it works and what it can be used for. John Gallagher, Jack French, and John Mosberger spoke about a Lynn, MA project to restore and transform an 80 ft. tower and cottage into an observatory. Tai Mental showed slides of the sight. Mike Mattei described how he documents his observations of Mars with drawings. He works at 250X using a 6", f/15 scope starting with a template drawn circle. He sketches with 3B & 6B pencils, rolled paper blenders, and a sharpened eraser using the Martian pole as a starting reference point. Sketches are

completed in 12-15 minutes. The results are extraordinary. Next, Mario Motta presented a slide show that showed the construction of his 18 ft. observatory in Centre Harbor, NH. Gerry Sussman described his and two others' unsuccessful efforts to collimate one of the 2.4 meter mirrors at Kitt Peak. He asked for suggestions from the audience. --Marion Hochuli

THINGS YOU MAY WANT TO KNOW...

A VARIABLE STAR EVENING will be held at the clubhouse from 7-9 p.m. on Friday, February 19. For last minute schedule changes, call 603-880-8219 and enter the code 52 at the start of the recorded message. --Edward Los

YOUR LAST CHANCE to sign up for the Baxter Dark Skies trip from August 14-21 is at our February meeting. Cost is \$3 per night per person. See me at the meeting or call me at 617-769-3023.

-- Tony Badessa

DR. JANET MATTEI, director of the AAVSO since 1974 and the spouse of ATM'er Mike Mattei, has been recently recognized for her significant contributions to astronomy. On January 22, 1993 Janet and Mike will travel to the AAS convention in Tuscon, AZ where Janet will receive the Van Blesbroeck award. --Ed Dougherty

STAR PARTY VOLUNTEERS needed to introduce students from the Killam Elementary School in Reading, MA to the night sky and observing with a telescope. The event is scheduled for Thursday, February 25 at 7 p.m. Sign up at our February meeting or call me at 617-391-9280. --John Samolyk

RADIO STATION WUMB of UMass, Boston is sponsoring a conference to promote an interest in astronomy on Saturday, March 27th starting at 10 a.m. They have asked for our assistance in: o Presenting short talks on amateur astronomy o Demonstrating mirror and telescope making o Manning a display table o Conducting solar observing o Providing an evening star party. Mark your calendar and plan to volunteer your assistance! --Bernie Volz

ATMoB ACTIVITIES...

THE YOUNG SCHOLARS PROGRAM of MIT has had three teenagers grinding telescope mirrors at the clubhouse since November under the tutelage of PHIL ROUNSEVILLE. Elizabeth and Stephanie, 12 and 13 years old, are making 8" mirrors while David, 13 years old, is working on a 6" mirror. They meet every Saturday at 1:30 p.m. at the clubhouse. Thus far, their mirrors have been roughed out to the proper curvature and are at the #120 grit grinding stage.

THE ATMoB CLUBHOUSE is in need of several items: an IBM compatible PC, a radio capable of receiving WWV time signals, 220 V electric base board heaters, heating tapes to prevent plumbing freeze-up, an electric blanket, a couple of home heating thermostats, and furniture such as a couch, chairs, and cabinets for our meeting room. If you have such or other items, can you

be persuaded to donate or sell them at low cost to the club. Remember, that all donations to the ATMoB are "tax deductible." Call me at 508-458-8857.

-- Ed Dougherty

THANKS TO THE EFFORTS of TAL MENTALL, Frank Tagan of Highland TV Co., Melrose, MA (617-665-8533) has donated a 19" color TV set to the ATMoB. It is now at the clubhouse. If you need a new TV, consider patronizing our donor.

AN EXECUTIVE BOARD MEETING is scheduled for Wednesday, Feb. 24 at 7:30 p.m. at Mario Motta's home in Lynn, MA. If you need directions, contact Mario at 617-334-3648. Among topics to be discussed are setting next year's club dues and approving, in principle, the Observing and Clubhouse committees functions and responsibilities. If any member has issues that should be discussed at the meeting, contact me as soon as possible.

--Bernie Volz

A BIT OF CLUB HISTORY...

The Amateur Telescope Makers of Boston was founded in 1934 by a group of persons interested in assisting others in the art of optical fabrication and telescope making, as well as in studying astronomy and the use of astronomical instruments. The founding members came from all walks of life: a banker, several engineers, a music teacher, a plumber, a tinsmith, a secretary, and an electrician, to name a few. The group was encouraged by A.D. Jones Optical Works, the only optical concern in Boston at the time. Mr. Jones introduced the club to Dr. Harlow Shapley of the Harvard College Observatory who assisted in instituting a series of monthly lecture meetings on astronomy at the observatory. These meetings still continue, and we have been privileged to hear many of the world's most eminent astronomers speak.

Twice-weekly, shop sessions were held in a basement adjacent to the great 15-inch refractor. Before long the quest for aperture began with each member attempting larger scopes as his prowess and resources progressed. Finally, the group collaborated in the making of a 20-inch mirror. Work was well underway and the mirror nearly complete, when World War II broke out. Most members had to devote time to war duties, but a few continued to visit the optical shop for weekly instruction. Several club members participated in the War Department program to produce binocular erecting prisms to aid the overstressed optical industry. Thousands of prisms were produced at a quality equalling or exceeding those made commercially. The stable environment of a subterranean shop was no doubt a great asset. Of course, many amateurs throughout the country participated in the program, but few were able to produce the angular accuracy required.

The ATMoB group later banded together under the direction of Dr. James G. Baker to form the Harvard Optical Project devoted to the fabrication of complex

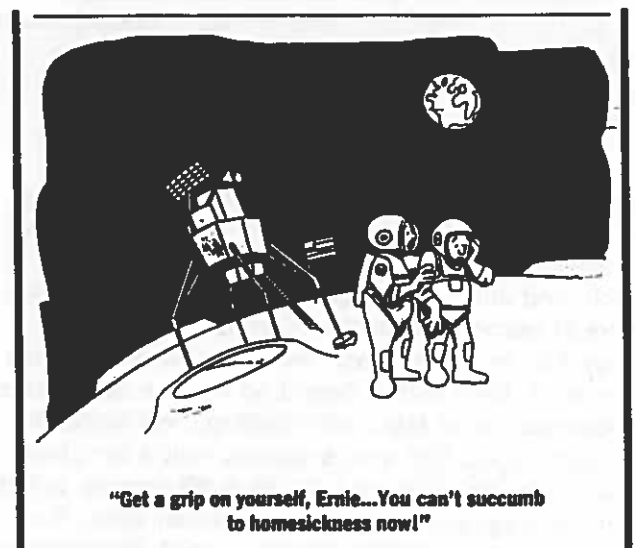
reconnaissance lenses. After the war, the group moved to Boston University as part of the Physical Research Laboratories. The lab was sponsored by the Air Force and later became ITEK Corporation. The foreman of the lab's optical shop was the first ATMoB president, Wagn Hargbol, who later formed his own optical company.

Regular club shop activities resumed with the help of these "professional amateurs" and the club grew to 180 members. Among those making telescopes were John Patterson, then director of the Hayden Planetarium; Charles Avila, former president of Boston Edison; Dr. Tuckerman Moss, a research scientist at Tinsley Optical Labs; Gerald Ouellette, professor of Astrodynamics at MIT and BU; and Samuel Gardiner, former optical foreman at ITEK.

In 1956, prior to the launch of the first satellites, the ATMoB joined the Moonwatch Program sponsored by the Smithsonian Astrophysical Observatory and formed "Operation Moonwatch--Cambridge," a research group developing advanced amateur techniques for visual observations and orbit predictions. Equipment was set up on the observatory roof to make observations accurate to 6 minutes of arc and one-tenth second of time.

As the combined HCO/CfA complex expanded, the ATMoB workshop was moved several times; and when all available space was taken by official staff programs, the shop was moved to the Museum of Science. Within a few years, a similar situation occurred at the museum. At that time the club, which had grown to 220 members, moved its activities to the cellar of one of its members; and long-range plans were made to purchase a piece of land and construct a workshop-observatory. The rapid rise in real estate values and building costs at the time delayed this goal and made the prospect of a convenient downtown location unlikely. In addition, the population shift to the suburbs made no one particular location ideal. In recognition of the various

ASTRO-CARTOON...



legal and financial problems involved with the acquisition of property, buildings, and equipment, the club decided to incorporate in Massachusetts as a non-profit educational organization. The membership voted to approve the incorporation at October 13, 1986 meeting under the then ATMoB president, George A. Wood, Jr.

In 1974, the ATMoB expended considerable labor and funds to refurbish a building at the Nike site at Drumlin Farm in Lincoln, MA. Workshop activities resumed with our own group responsible for heat and utilities. An active observing program was established and a 16-inch portable telescope was constructed. Unfortunately, nearly a year later, it was discovered that the prior landowner had stipulated that should the U.S. Army vacate the site, it was to revert to its natural state. The army was required to demolish the buildings and the ATMoB was without a shop again.

-EDITOR'S NOTE: The authorship of the above is unknown, but it may have been written by Dennis di Cicco. Since preparing the above for this issue, I have received from Ed Los via Bernie Volz additional historical notes that can be used to continue this history.

ATMoB MEMBER PROFILES...

EDWARD DOUGHERTY our Observing Committee Chairman and ATMoB member for some 25 years has pursued amateur astronomy ever since assembling his first 2-inch, f/25 refractor at the age of 7. A native of New York state, Ed was president of the Troy Astronomy Club for 10 years and taught telescope making for them. Three times he received top honors in Stellafane telescope making competitions. Although he no longer holds the record for the largest scope brought to Stellafane, he does for the heaviest--a nearly two ton, 30-inch, f/10 monster with a 12" dia. RA shaft!

Being a mechanical/electrical engineer with numerous patents to his credit, Ed thrives on building things in his well-equipped home shop. In the course of making more than a couple dozen scopes of all varieties over the years, he has poured his own blanks, made iron and aluminum castings for mountings, and machined gears for drives. With his wife Cindy, Ed has also operated a home business, Thor Enterprises, that has supplied CCD camera systems for planetary imaging to a couple hundred amateurs throughout the nation.

Ed's main telescope today, is a C-11 housed in a domed observatory at his home in Dracut. It is equipped with things like a dual axis PM tube star tracker, homemade CCD imagers, film cameras, a photometer, image intensifier, and a CAT in addition to the usual accessories. Hydrogen alpha solar observing, astrophotography, photometric measurements, and building high-tech astro accessories are among his current interests. In addition to astronomy, messes around with motorcycles, roller skating, ham radio and computers. Those of you who know Ed, realize that he and Cindy's contributions of love and labor to our clubhouse facilities are legend and Ed is still one of the prime movers in this regard.

E. TALMADGE MENTAL, our Halley's Comet president (1985-1987) was born in Detroit, moved to the Boston area in 1956, and has been an ATMoB member for a long 26 years. Having taken countless fishing trips to Canada with his father, he can remember at the early age of seven looking up at the night sky and wondering about the moon and those sparkling points of light--that's been about 58 years ago. As a youth, Tal loved reading Flash Gordon, Buck Rogers, and Prince Valliant. He says "I was probably an astrologer in a previous life."

His first telescope was a 3.5-inch, f/11 Skyscope Newtonian purchased in 1947 and gave him his first views of the Ring Nebula and Jupiter. Currently, he has three additional scopes: a 10" SCT, a C-5, and a 5" RFT refractor that he assembled from commercial parts. Tal's main observing interests are the moon and comets. Transient lunar phenomena are his specialty. Things like the ruby-red glows in the Cobra Head region of Schoter's Valley near Aristarchus, lights seen in the crater Gassendi (near crater Proclus) and in Mare Crisium. He feels that the moon should be monitored during meteor showers to detect any impacts.

Now that he is retired from his careers as an Air Force Weather Observer and more recently a draftsman, he can pursue his other hobbies that include photography, computers, motorcycling, and reading. Your editor now understands why Tal gives those marvelous December meeting renditions of "The Night Before Christmas." Some years ago he appeared in nine plays with the MIT Community Players.

MARKETPLACE...

FOR SALE PC compatible computer system, 386DX, 25 MHz with math coprocessor, tower case, 8 MB RAM, 64K high speed cache, Video & 1024i VGA adapter, 12" NEC MultiSync color monitor, Teac 3.5", 1.4 MB floppy drive, 2 half height 80 MB hard drives, parallel and 2 serial ports. High quality AMI Mark II motherboard. \$950 or best offer. Carl Hein, 508-263-0076.

FOR SALE Hewlett Packard 7470A two pen plotter, A size (8.5"x11") for IBM PC or compatibles, with manuals, supplies and cable. For transparencies and/or paper plots. Connects to serial port. \$200 or best offer. Carl Hein, 508-263-0076.

OBSERVER'S CALENDAR...

Feb. 21 MERCURY at greatest eastern elongation and the best evening appearance for 1993 at a magnitude of -0.5 and a height of 10° above the southwestern horizon.

Feb. 24 VENUS at greatest brilliancy (mag. -4.6)

Feb. 13-28 DARK-SKY observing window for the month.

COMING EVENTS...

- Feb. 10 OPEN NIGHT AT THE BU OBSERVATORY, "Space Physics Among the Eskimol" by W.J. Hughes, 7:30 p.m., Rm 522, 725 Commonwealth Ave., Boston. Call 617-353-2630 after 5:30 p.m.
- Feb. 20 ATMoB MONTHLY OBSERVING NIGHT at the ATMoB Tom Britton clubhouse.
- Feb. 18 CfA MONTHLY OBSERVATORY NIGHTS, 8 p.m., Phillips Auditorium, CfA, Cambridge, MA. For more info call 617-495-7461.
- Feb. 24 ATMoB EXECUTIVE BOARD MEETING, 7:30 p.m., Mario Motta's home. See p. 2.
- Mar. 20 A MESSIER MARATHON will be held at the clubhouse.

EXECUTIVE BOARD 1992-93...

- PRESIDENT: Bernard Volz, 508-881-3614
- VICE PRESIDENT: Mario Motta, 617-334-3648
- SECRETARY: Ted J. Poulos, 617-566-5127
- MEMBERSHIP SEC: John Samolyk, 617-391-9290
- TREASURER: Anthony Costanzo, 508-521-5382
- MEMBERS AT LARGE: Peter Bealo, 603-382-7039
Anna Hillier, 617-861-8338
- PAST PRESIDENTS: 1990-92 Marion Hochull
1989-90 David Aucoin
1987-89 Gary Walker

COMMITTEES...

- OBSERVING: Edward Dougherty, 508-458-8857
- CLUBHOUSE: -- Open --

FIRST CLASS

Thru '93 ORION RENDEZVOUS: A STAR TREK VOYAGE OF DISCOVERY, Hayden Planetarium. For more info call 617-723-2500.

MARCH STAR FIELDS DEADLINE...

February 25th is the deadline for items to be included in the March issue of *STAR FIELDS*. Mail or phone your contribution to Ted Poulos, 18 Cushing Rd., Brookline, MA 02146 (617-566-5127).

HOW TO FIND US...

MEETINGS: Held the second Thursday of each month (September to July) at 8 p.m. in Phillips Auditorium, Harvard-Smithsonian Center for Astrophysics, 60 Garden St., Cambridge, MA. Parking available on the grounds.

CLUBHOUSE: The Tom Britton Clubhouse is open every Saturday from mid-afternoon to late evening. It is the white farmhouse on the grounds of MIT's Haystack Observatory in Westford, MA. Take Rt. 3 north from Rt. 128 or 495 to exit 33 and proceed west on Rt. 40 for 5 miles. Turn right at the MIT Lincoln Lab, Haystack Observatory sign at the Groton town line. Proceed to the farmhouse on the left side of the road. Since clubhouse attendance varies with the weather and other activities, it is wise to call ahead: 508-692-8708.

AMATEUR TELESCOPE MAKERS OF BOSTON
c/o John Samolyk
65 Court Street
Medford, MA 02155