



volunteers were needed for October 22nd work session to "button up" the clubhouse for the winter. Mario, after double-checking that no one had brought the \$40,000 necessary to send his 32" scope to South America for the upcoming eclipse, showed a collapsible 13", suitable for carry-on baggage. He also discussed three upcoming star parties: the first was to occur in Lynnfield as part of the "Partnership In Astronomy" on Monday, October 24 (rain-date October 26), the second at the Kennedy School in Waltham on November 1, and finally one on December 6 at 7 PM in Reading. Tanya Vudler has been working with children in the Lexington Public Schools, and is planning to hold a star party on Wednesday, November 9. Ed Los announced that there also was to be a Merrimac, N.H. star party in November.

Our November Meeting...

Thursday, November 10, 1994
Phillips Auditorium, Harvard-Smithsonian
Center for Astrophysics

OUR NOVEMBER meeting will feature a presentation called "Selling Astronomy: Public Information, Outreach, and Education" by James Cornell, Publications Manager for the Harvard-Smithsonian Center for Astrophysics. For more than 30 years, Mr. Cornell has provided public relations for the Harvard and Smithsonian observatories and, by extension, the wider American astronomical research community. After a quick overview of the many outreach programs conducted by his department (including the Observatory Nights well known to ATMs), Mr. Cornell will provide a slide tour of two new "visitor centers" for amateurs and the general public in Arizona - at the Lowell Observatory in Flagstaff and at the Smithsonian's Whipple Observatory at Amado.

A graduate of Hamilton College, with a Masters Degree in journalism from Boston University, Mr. Cornell is the author or editor of more than a dozen popular books on science, including "The First Stargazers," a history of pre-telescopic astronomy, and "Bubbles, Voids, and Bumps in Time," a survey of modern cosmology.

Please join us at a pre-meeting dinner at the Changsho Restaurant, 1712 Mass. Avenue, Cambridge. Please meet at the restaurant by 6:00 PM.

October Meeting Highlights...

THE MEETING was opened by President Mario Motta. There were no Secretary or Treasurer's reports, but the Clubhouse report was given by Paul Ciccetti, who reported that the west side gable end of the clubhouse was nearly painted, and that the front was approximately 80% finished. A recently donated 17.5" telescope was installed in the former 16" telescope hutch. He also stated that plans are afoot to reinstall power at the observing site, and

Mario announced an Executive Board meeting at his house for Sunday, October 16 at 7:30 PM. The agenda included a visit by a tour operator to discuss plans for the 1988 Aruba Solar Eclipse.

Mario then led a discussion as to whether the ATMoB should remain in the Astronomical League. Ted Poulos spoke strongly in favor of our continuing involvement as did a couple of other members. Bernie Volz had spoken to the Astronomical League concerning their fee structure, as he and some others felt that paying for the "Reflector" wasn't good value, but was told there was no possibility of AL membership without the quarterly publication. A straw vote taken showed members present overwhelmingly in favor of remaining in the League.

Bernie showed a flyer offering discount Kalmbach Publication Co. books, which he passed around. Ted Poulos told us of a CCD camera for sale by a member of the Skyscrapers, and Peter Bealo suggested showing the stars to trick-or-treaters on Halloween, as he's gotten a great response in the past when he's done so.

The evening's speaker, Dr. Robert Kirschner of the CFA, gave an informative and quite entertaining talk on using supernovae to determine the size of the universe.

President's Message...

DUE TO the increasing requests for star parties by school systems and the limited number of ATMoB members that will volunteer for this activity, the Executive Board and I have reluctantly decided that the club can sponsor no more than one star party per month, on a first come first served basis. Even at this level of activity we may be straining our resources as it is basically the same crew that volunteers for these over and over. This may put me in the position of saying no to some requests at times. Requests over the one per month limit can be organized by any club member on their own of course, but then it will be up to that club member to get the volunteers. I come to this decision reluctantly, and will be more than happy to reverse this policy if only we could see some new faces at the star parties. Please remember that our clubs future

depends on reaching out to the public and especially school age children.

I am happy to announce that Richard Nugent will be Observing Chairman for this year. John Reed and Paul Cichetti could still use a few more volunteers in certain positions.

As you read this newsletter, Bernie Volz and I are in Bolivia for the solar eclipse. If all goes well we will have some spectacular photos to show at the December meeting. (We come back from Bolivia on November 8th, and our slides will not have been processed by meeting time in November). I wish to thank those few souls who actually volunteered to send my 32-inch telescope to Bolivia with me (including a member from the Amherst area club), but.... IT WAS A JOKE!! If I ever write another non-serious article for *Starfields*, I will have to indicate at the end not to take it seriously. Still, I do appreciate the offers.

I plan on taking solar photos with a Meade 2045 4-inch scope, rather than my 6-inch refractor so I can have room to take a 13-inch lightweight Dobsonian that comes apart and fits in a suitcase. I hope to have a week of spectacular views of the southern sky from the dry altiplano at 13,000 feet. The only problem is scheduling in some sleep time.

Bernie Volz, Eric Johansen, and I (Mario) attended the annual NELPAG (New England light pollution advisory group) meeting on October 22, this year held in Kennebunkport, Maine, and cosponsored by *Sky and Telescope* magazine. It was a lively meeting with attendees from all over New England and David Crawford of IDA as well. If you value the night sky and wish to do something about it, I urge all members to join NELPAG (it is free), and to support the IDA (\$20/year).

Membership Renewals...

THIS IS your last chance to renew your membership. Those who have not renewed by December will be removed from the club's roster. The June '94 *Star Fields* has a renewal form or contact Membership Secretary, Mark Bruckner for one (his address and phone number is on last page of *Star Fields*).

Please complete and return the form, with your payment, as soon as possible to Mark.

Announcements...

ATMOB APPAREL - Caps, T-shirts, and sweatshirts imprinted with our logo, are available for purchase at meetings and by mail (postage extra). All proceeds go to the ATMob. We offer yellow T-shirts with a blue logo for \$10, gray sweatshirts/blue logo for \$18 and blue and white caps with a blue logo for \$6.

- Ted Poulos

Clubhouse News...

TO STREAMLINE operations, clubhouse administration will be handled by two committees: Observatories/Grounds and the Building. The former will be handled by Steve Clougherty (508-458-7615) and the latter temporarily by Paul Cichetti. Both committees need your help. Please call Steve or Paul to coordinate your schedule with their committee efforts.

WITH THE help of Bob Masse's forty foot ladder, both peaks of the house were painted by Paul Cichetti. He was assisted by Dave Aucoin and Greg Chase. Paul also completed the final coat of paint on the west wall of the house and south side of the barn. Jim Suslowicz completed the seasons final grass. The trench was dug and conduit laid for the new ground fault tolerant (GFI) power grid for the observing field; this will be continued as weather permits. Thanks to Steve Clougherty, Paul Cichetti, Art Swedlow, Jim Suslowicz, Gary Walker and John Reed on this project.

THE SEVENTEEN-inch Dobsonian is now operational in the "Chase Hutch". The tube has been painted, a heater device installed, the hutch painted and an observing table and chair installed in the hutch. Thanks to Dave Aucoin, Steve Clougherty and Jim Suslowicz on this project.

A TEMPORARY plastic cover has been placed over the evaporator room to stop it leaking until an attempted repair of the roof next spring. Air conditioners have been secured for the winter and we now have heating oil.

WE STILL need a bunk-bed, storm window and small wall lamps. Contact John Reed.

A CLUBHOUSE committee meeting will be announced in the December *Star Fields* to finalize the 1995 clubhouse duty schedule. Please call Paul or John with your wishes for clubhouse duty times by November 15, 1994.

THE SPIN oven donated by the University of Arizona has been assembled in the basement and is expected to be operational for December's trial run casting of the club's three-meter, f/4.5 blank. Volunteers with strong stomachs and an extraordinary tolerance for high G-forces, are needed as operators. Members with access to the John Hancock Building are requested to contact John Reed.

CLUBHOUSE SCHEDULE

Nov. 5:	Green, Milon, Volz, Suslowicz
Nov. 12:	Chase, Fill, Burrier, Rounseville
Nov. 19:	Walker, Budreau, Cichetti, Reed
Nov. 26:	Mock, Suslowicz, Milon, Johannson
Dec. 3:	Ledford, Fill, Swedlow, Burrier

Keep Looking Up...

FOUR METEOR can be seen in the next six weeks. The Geminids have always been a good performer but maybe hampered by a 10-day-old moon this year. The showers and dates are listed below.

N Taurids: November 13
Leonids: November 17
X- Orionids: December 2
Geminids: December 14

ATMoB Projects...

LAST NIGHT I swung by John Reed's house to pick up his notes regarding clubhouse activities for this issue of *Star Fields*. Since this was the first time John actually let me in his house, it was also the first time I saw a clever, single mounted, twin telescope he had built. The configuration allows for simultaneous viewing of the same object by two observers.

The instrument has two, 6-inch, f/8, RV-6 telescope tube assemblies in a single Dobsonian mount. One assembly has three alignment screws for collimating to the other tube assembly. The focusing mechanisms of each assembly are placed so observers on opposite sides of the mount face each other. John said this feature allows children at the star parties he attends to talk to each other while observing the same object. There is even a provision for a small CCD equipped telescope to allow those waiting in line to see the observed object on a monitor prior to their turn at the eyepiece.

Innovation in our hobby is not limited to new optical designs or electronic gadgetry, it's also old ideas applied in new ways.

- Steve Beckwith

Harvard's Great Refractor...

HARVARD'S 15-INCH telescope, "The Great Refractor" was installed in the Harvard College Observatory in 1847. For 20 years it was the largest such telescope in the United States, the most significant American instrument, and equal to the finest in the world. It was the nucleus around which the Harvard College Observatory developed.

In 1815 the Harvard Corporation voted to form a committee "to consider upon the subject of an observatory". This as probably the first corporate act passed in the United States toward the establishment of an observatory. The information returned by the committee revealed that the cost of construction and operation far exceeded original estimates and plans were suspended. Revivals of the idea in 1822 and 1823, the latter by John Quincy Adams, met similar fates. Finally in 1839 the Harvard Corporation voted to appoint William Cranch Bond, a prominent Boston

clockmaker, as Astronomical Observer to the University (at no salary) and to arrange transfer of his personal observing equipment to Dana House, which then stood on the present site of the Lamont Library in Harvard Yard. The instruments were installed that Fall and additional meteorological equipment, barometers and clocks, were added in the next few years.

The lens for the Great Refractor was ordered in 1843 from Merz and Mahler of Munich; it was to be a twin to one completed in 1839 for Poulkovo Observatory in Russia. The telescope's 20-foot wooden tube is veneered with mahogany and tapers from the 16-inch objective end to 12-inches at the observing end.

An 11-ton, 11-foot-high granite block supports the telescope's mount. The block rest atop a 43-foot granite pier whose 22-foot-diameter base begins 26 feet below the ground.

The observatory's 30-foot, 14-ton dome -reputedly built by a whaling shipwright- is copper sheathed. It originally rotated on eight bearings of eight-inch iron spheres which were replaced in 1940 with a more modern support structure. Originally, doors on three sides of the dome led to small iron balconies on which portable telescopes could be set up. Today, only one of these balconies remains.

Inside the dome, a unique observing chair, recently restored by ATMoB volunteers, revolves on a circular track and can be raised or lowered to put the observer into proper position at the eyepiece.

A number of significant achievements came with the Great Telescope. In 1848, observatory director W.C. Bond and his son George P. Bond discovered Saturn's eighth satellite. In 1850, Saturn's crape ring was first observed, again by the Bonds. The same year, the first daguerreotype ever made of a star (Vega) was made by J.A. Whipple and one of the earliest photographs of a double star (Mizar and Alcor) was made in 1857.

The Great Refractor had an active life of nearly three-quarters of a century. During the first 30 years the work was chiefly stellar position measurement and visual observations of the planets, variable stars, comets and nebulae. After the appointment in 1877 of the observatory's fourth director, Edward C. Pickering, the telescope was almost entirely used for photometry.

Coming Events...

MONTHLY FRIDAY OBSERVING near the new moon. At the clubhouse. Contact Ed Los at home 603-884-1586 (home) or 603-884-1586 (work).

Nov. 17 CFA MONTHLY OBSERVING NIGHTS. "Blasts from the Past: Supernovas as Cosmic Yardsticks" by Brian Schmidt, CFA. 8:00PM, Phillips Auditorium, Harvard-Smithsonian Center for Astrophysics. Call 617-495-7461 for additional information.

EXECUTIVE BOARD 1994-95

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CLUBHOUSE DIR.: John Reed 617-861-8031
Paul Cicchetti 508-433-9215
OBSERVING: Richard Nugent 508-879-3498

DECEMBER STAR FIELDS DEADLINE

November 25th is the deadline for items to be included in the December issue of *Star Fields*. Mail or phone your contributions to: Steve Beckwith, 195 Wilder Road, Bolton MA. 01740

How to Find Us...

MEETINGS: Held the second Thursday of each month (September to July) at 8:00PM in Phillips Auditorium, Harvard-Smithsonian Center for Astrophysics, 60 Garden St., Cambridge MA.

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 Rt. 495 to exit 33 and proceed West on Rt. 40 for five miles. Turn right at the MIT Lincoln Lab. Haystack Observing at the Groton town line. Proceed to the farm house on the left side of the road. Since clubhouse attendance varies with the weather, it is wise to call in advance: 508-692-8708.

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