THE FOCAL POINT

Vol. I, No.XI — *The Newsletter of the Atlanta Astronomy Club* — July 1989

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CLUB CALENDAR

Next Meeting: July 29 (Saturday), 6:30 p.m. at the Walter F. Barber Observatory in Villa Rica.
Program: A club picnic / star party will be held on the observatory grounds. In case of rain the picnic will be moved to August 5. Picnic status can be obtained the day of the picnic by calling Leonard Abbey.

Editor: ..... Steve Gilbreath
Contributing Editors: ..... Dr. Ralph Buice, Hal Crawford, Richard Jakiel, Mark Lancaster

The Focal Point is published monthly during the academic year by the Atlanta Astronomy Club, Inc. The AAC is a non-profit organization dedicated to the advancement of amateur astronomy. Meetings are held the third Friday of each month (except the second Friday in December) at the Bradley Observatory on the Agnes Scott campus. Dues are $25 annually for a single membership and $30 for a family membership and include a subscription to **Sky & Telescope** magazine and use of the club observatory in Villa Rica.

Submissions: Article submissions are welcome, and may be delivered to the editor for consideration. Articles on computer floppy disk are encouraged.

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THE CASUAL ASTRONOMER: JULY 1989

by Hal Crawford

Twenty Years Later: Looking Back...and Ahead

Eight years. It took only eight years since John F. Kennedy told Congress on May 25, 1961 that America's new initiative was to put a man on the moon by the end of the decade. We all know that Kennedy never lived to see his promise fulfilled, but the achievement still stands as man's greatest display of courage, ingenuity, and human spirit. Twenty years ago this month, on July 20, Neil Armstrong and Buzz Aldrin descended the small lunar lander Eagle with only 20 seconds of fuel remaining. "Tranquility base here," announced Armstrong. "The Eagle has landed."

Since that time we not only put a man on the moon -- we put lots of men there, where they harvested rocks, performed geological (moonological?) studies, drove around in buggies and took thousands of pictures -- and thus expanded the cumulative knowledge of mankind. Americans began to dream that if the moon could be conquered, why not the rest of the solar system?

In part, that has also since been achieved. Landers have been placed on the planet Mars, sophisticated probes have been sent out as far as Jupiter, Saturn, Uranus -- and next month -- as far as Neptune. Amazing discoveries have been made by these probes: Jupiter's ring, the braiding in Saturn's rings, additional satellites around the Jovian planets among countless others.

Now we must again look to the future. It seems amazing that the goal of America in space is under deep and constant debate, but it is. The positioning of defensive satellites against nuclear missiles (called the Strategic Defense Initiative by the proponents, "Star Wars" by the opponents) may radically change the way we look at space. There are people who say we must have a space station, other people saying it's a waste of time and money. There are entire organizations devoted to sending a man to Mars, in the face of budget cuts and political adversity.

I believe the next clear goal for man, however, is to visit the fourth planet of our solar system. The most striking aspect of such a project is the amount of time required to send an exploration team to Mars. After all, we're talking about several months just to get to the red planet, a few months to explore it, and then several more months to get home. The trip duration could be between 2 and 3 years. Not only must a research team be bottled up for this time, but all equipment associated with such an adventure must be capable of working without mishap and minimal breakdown for that time as well.

It seems strange to send out people for three years, all in the name of exploration. After all, we can zoom thousands of miles in mere hours, circumnavigate the planet in comfort in mere days. But looking back upon history, such long voyage times are not at all unusual. After all, it took several months for Columbus to sail across the ocean and explore North America

-- the Vikings did it regularly even before him. Magellan travelled around the world -- it took him years and cost him his life.

Human lives are clearly more precious now than they were in prior centuries, but it is equally clear that mankind must continue to explore and discover in order to obtain a better understanding of our universe. Now we must traverse not hundreds or thousands of miles, not even millions of miles, but tens of millions of miles -- to achieve the next steppingstone of civilization and progress. So moving out and exploring other planets -- and ultimately other systems -- should be not only a goal, but a certainty.

ASTIGMATIC HELP FOR ASTRONOMERS

by David Durkee

Just took my vacation to catch up on my professional journals concerning eye care when I came across an article entitled "Spectacles for microscopists and astronomers" by Peter Blue, MD and John Pyle, OD. Dr. Blue is an army physician and amateur astronomer who wanted to keep using his spectacles for work and play. The solution they devised I thought was unique and of some benefit to the rest of the forum so I shall share some of their more salient points.

If you have a lot of astigmatism (you know who you are) and can't wear contact lenses (still the best option), then here's an alternative:

Have your eyeglass lenses mounted backwards so that the concave part of the lens is to the outside, not the inside as is normal. This permits the eye's entrance pupil to get close enough to the telescope's exit pupil to appreciate the full field of the short relief eyepiece's. Now this is a little trickier than it sounds, because in manufacturing the lens the right and left lenses have to be switched and the orientation of the lens mathematically manipulated so everything comes out right in the end. The authors suggest using glass lenses to resist scratching, and to only put the correction for astigmatism alone in the observing eye. The telescope's focusing ability does the rest. The opposite eye can be full power or any combination you desire. The main idea is to make a front surface concave lens that corrects astigmatism and stays thin. The authors tried various combinations and preferred a +5.50 base curve lens.

If anyone would like their prescription converted so you could order the same, let me know and I'll do what I can. Dr. Blue said this worked well with his 7mm eyepiece, and he likes it much better.

SATURN OCCULTATION REPORT

by Darrel Green

A note from Leonard Abbey:

Darrell Green is one of my best friends. We talk almost every night, but I have never met him. We are both heavy users of CompuServe Information Service's Astroforum. Hundreds of amateur astronomers access this astronomy database each week. The mainframe computer which runs it is in Ohio. The network which provides access to it is spread across the country. The members of Astroforum live in almost every city you have ever heard of. We are the world's largest astronomy club.

Like I said, I have never met Darrell, but I know what he looks like. I saw his picture in *Sky & Telescope*, where it appeared with an article he wrote. I know something else about Darrell: He is a wonderful father. Darrell and his son, Derek, have enjoyed many observing projects together. Teaching your son by example gives him an important advantage in life.

Here is Darrell's account of their observation of the recent occultation of a bright star by Saturn. Their work must be considered to be professional by any definition of the word.

Here's our report on the Saturn/28 Sag occultation from Burbank. Our observation "team" consisted of my 9 year old son, Derek, and myself. We approached the event as follows.

First we developed an "event schedule" based upon the predicted times listed in *Sky & Telescope*. Then we talked about what would probably happen at each discrete event. We prepared a log sheet by filling in the predicted times and event names, but left an area for note-taking blank. Finally, we placed a digital clock near the telescope (with precision down to the seconds) and set it to the time at the U.S. Naval Observatory Master Clock.

For each discrete event, one of us was at the eyepiece and the other was watching the clock taking notes. The person at the eyepiece would verbally describe what he saw (e.g. "gradually dimming, slightly brighter, winking on and off, disappeared," etc.). At the same time, the other person would be counting down the time to the predicted event out loud. The "timer" would also be taking notes on what was being observed and when. Each of us took turns at being "observer" and "timer."

Compared to what most of you probably did, our occultation observation was not very scientific. But it was a good chance for a father and son to spend some time doing something together, and to learn a few things at the same time. What follows are some of our (very amateur) findings, by event:

F-ring: Noted nothing. (DG at the scope)

A-ring, outer: Flicker substantial dimming. (Derek at the scope)

Encke Division: Noted nothing. (Derek)

Cassini Div., outer: 5 seconds early (06:13:10 UT) star got noticeably brighter. (Derek)

Cassini Div., inner: Started dimming 6 seconds early .(06:16:30 UT), winked out 9 seconds after predicted time (06:16:45 UT), only occasionally very slightly visible thru B-ring, very dim. (DG)

B-Ring, inner: 9 seconds early (06:35:35 UT) started getting brighter, star became significantly brighter. (Derek)

C-Ring, inner: Noted no change. (DG)

Saturn (1 microbar): 15 seconds early (06:51:05 UT) gradually began dimming, at 46 seconds after predicted time (06:52:06 UT) the star completely disappeared. (Derek)

Instrumentation was an 8-inch SCT working at 299x.

As I said, our techniques and approach may not have been very scientific, but we sure had fun. Plus, we were able to spend some time together doing something that at least seemed important, while also learning a few things.

First Summer Meeting Report

This year of the Atlanta Astronomy Club is setting a new precedent -- summer meetings! The first such meeting took place last month on June 16 at the Fernbank Science Center. We were greeted in the lobby by Fernbank Astronomer David Dundee, who escorted members to the Planetarium. The featured show was "Galaxies, Beyond the Stars," an excellent presentation which included narration by AAC member Dr. Ralph Buice.

This meeting marked the introduction of a new promotional brochure for the Atlanta Astronomy Club, produced by Hal Crawford. Additional copies had to be quickly printed to accommodate the curious who joined us at the brief meeting after the show.

A surprise guest of the AAC was Craig Brenden, the editor of the Baton Rouge Astronomical League. He was introduced by Fernbank astronomer Ed Albin, and talked with officers about the paths that his comparatively young club were taking.

All in all, the first summer meeting was a success, which promises that summer meetings will certainly be around for awhile.

July Meeting - Under the Stars

The meeting for July will be held on the 29th at the AAC Walter Barber Jr. Observatory in Villa Rica, Georgia. The evening will begin at 6:30 pm with a picnic dinner, followed by a brief meeting and an introduction to the telescopes. Pack a picnic dinner with your flashlight (make sure that flashlight has a red lens!), and come out for the fun!

This is a great opportunity for new members to be introduced to the 20 inch telescope, as well as meet people who are intimately familiar with the operation of this equipment. Considering the rainy weather we've had so far this summer, we certainly deserve at least one clear night! However, should the inevitable occur, the rain date has been set for August 5. Contact an officer for directions to the observatory.

Know Your ALCOR

The Atlanta Astronomy Club is a member of the Astronomical League. This group is responsible for coordinating the activities of all clubs, whose total membership is now over 10,000 amateur astronomers. Hal is the Astronomical League Club Coordinator (ALCOR). He is responsible for notifying the club membership of all AL news and handling the annual AL elections with the club membership. Contact Hal if you have any questions regarding AL events and activities.

NEW OFFICERS AND BOARD OF DIRECTORS ELECTED

At the May meeting the nominating committee presented the slate of new officers and board of directors. It was voted on and passed. The following take up their duties in September:

Officers:

President:	Leonard Abbey
First Vice President: (Program)	Eugenia Abbey
Second Vice President: (Observing)	Rich Jakiel
Recording Secretary:	Bud Rosser
Corresponding Secretary:	Steve Gilbreath
Treasurer:	Hal Crawford

Board of Directors (2 year term):

Al Beales
Linwood Beck
Sharone Franklin
Don Hall
John Marsh

THE FOCAL POINT

First Class Delivery

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