

AD ASTRA

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The Newsletter of the Atlanta Astronomy Club

September 1986

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CLUB CALENDAR

Next Meeting: September 19

Program: A talk will be presented by Dr. David Finkelstein, professor of physics at Georgia Tech, on modern physics and Grand Unification theories.

Observing Sessions: October 3, 4

AD ASTRA is published monthly during the academic year by the Atlanta Astronomy Club, Inc. The Atlanta Astronomy Club, an organization dedicated to the advancement of amateur astronomy, meets on the third Friday of each month (second Friday of December) at the Bradley Observatory on the Agnes Scott College campus at 8:00 PM. Membership dues are \$25 yearly and include an annual subscription to *Sky and Telescope* and use of club observatory facilities.

Editor in Chief:..... John Marsh
Contributing Editors:..... Dave Roberts, Don Barry
.....Rick Clark, Sharone Franklin, Pat Frank
President:.....Dr. Joe Gibson
Vice Presidents:..... Dave Roberts, Mark Wilkinson
Treasurer:.....Bud Rosser
Secretary:.....Sharone Franklin

CLUB MINUTES

The May 16, 1986 meeting was held at the Bradley Observatory with Don Hall presiding.

I. Elections were held for 1986-87 club officers. The following members were elected:

President: Dr. Joe Gibson

Vice President and Program Chairman: David Roberts

Treasurer: Bud Rosser

Corresponding Secretary, Newsletter Editor: John Marsh

Recording Secretary: Sharone Franklin

New Board Members: Rick Clark, Tom Buchanan, Pat Frank

II. The program was the annual photography "show and tell" given by our club members. Halley's comet was the main attraction. This year's participants were:

Paul Dykes

Lee Bradford

Tom Buchanan

Jim Brown

Bill Close

Liz Peterson

Gene Powell

REFLECTIONS FROM LOWELL'S OBSERVATORY

By John Marsh

The trek began early in the morning- very early indeed! We finally escaped the Waffle House at about 5 AM. The insanity began in earnest. The I-10 exit vector was obtained, and the Starship Buick Park Avenue began the climb out of Galactica Tucsona with her intrepid (and tired) crew. On board were Rick Clark, David Roberts, Sharone Franklin, and yours truly. Rick Clark was in charge of the Warp Drive, which he used to great effect.

About two solar hours ahead lay the Phoenix System, consisting of a large main mass and attended by several satellite systems; these consisting of bright young stars rich in green paper (to burn!) fuel. The Phoenix system was thus expected to resemble our native Galactica Atlantia. It did not! M-82 is a better analogy, or perhaps NGC 5128. The Phoenix System was most definitely peculiar! Only with much difficulty and ingenious use of the Warp Drive was the Buick Park Avenue able to escape the seething mass of the Phoenix System, and continue to the fabled Flagstaff System.

To couch our one day journey from Tucson to Flagstaff in terms of a *Star Trek* episode may seem rather hyperbolic, but to travel cross country in Arizona is truly to traverse an alien world. Certainly Captain Kirk, Mr. Spock, et al. never faced a greater challenge than crossing Phoenix during morning rush hour! Our purpose in making the 712 mile round-trip was to visit two observatories: the Flagstaff Station of The U. S. Naval Observatory and a veritable shrine of planetary astronomy- Lowell Observatory.

A short while after leaving Phoenix on I-17, we arrived at the Verde Valley. Driving into the valley most nearly resembles a full-power dive in a high performance aircraft- I've never seen an interstate behave in such a manner! Once at the bottom, one climbs to the "other Arizona"- the Arizona of high altitude and pine forests. The area roughly between Verde Valley and The Grand Canyon is the Coconino Plateau. Flagstaff rests near the center of this upland realm. Just north of Flagstaff looms the Crown of the Realm- The San Francisco Peaks. "The Peaks" are all that remain of a great strato-volcano which once may have towered over 15,000 ft., higher than Mt. Ranier. As it is, the San Francisco Peaks reach nearly 13,000 ft., and were snow capped during our April visit.

Founded by Percival Lowell in the mid 1890's, The Lowell Observatory sits just above Flagstaff on the aptly named Mars Hill. Lowell established the observatory for observation of the planets, Mars in particular. In the area where visitors are permitted, three buildings are grouped. To the right as we drove in was the drum-shaped dome housing the 24" Clark refractor. To the left, the computer and data reduction center. With its low rock walls and sloping tile roof, it showed the obvious influence of Frank Lloyd Wright. The architect founded an architecture school in Phoenix; Arizona is thus full of the "Wright Stuff"! Directly ahead lies a two story rock structure with a low green dome. This is the Visitor's Center, and is full of Lowell memorabilia, including the blink

comparator with which Pluto was identified. Also included are photographs of various objects, including Comet 1910A, the 1910 return of Comet Halley, and Mars.

The Visitor's Center was completed in 1916, the year of Lowell's death. The circular auditorium where the lecture for the public is given has two levels. The ground level houses the displays, the upper level veranda houses part of Lowell's personal library. It consists of, among other things, a large collection of books on mathematics and mathematical puzzles. Hanging from the center of the rotunda is a massive glass globe lamp surrounded by a ring- the Planet Saturn! The Saturn motif also occurs in the iron gate leading to the refractor dome; evidently Saturn fascinated Lowell nearly as much as Mars.

The only telescope open to the public is the 24" Alvin Clark refractor. With this instrument, open to the pristine sky of Northern Arizona, Lowell made his famous (or infamous) drawings of Mars- and its apparent system of canals. The 24" Clark was truly the finest astronomical instrument available for planetary research in the late nineteenth century. Lowell had every reason to feel confident about his observations, which were widely published. Lowell thus started the "Mars Mania" which continues to this day.

Mars obsessed Lowell; it was the main reason for the founding of the observatory and the acquisition of the 24" Clark. He used it to chart his imagined system of Martian canals, bringing water from the poles to thirsty equatorial cities. Lowell believed the canal system to be last ditch effort at survival for an old and advanced Martian civilization, trapped on a dying planet. The telescope stands imposingly inside the drum dome, looking much as it did in Lowell's own time. His theory of a vast system of planetary wide aqueducts ignited a controversy which lasted until the first space probes finally settled the matter.

There are indeed great channels on the planet that were almost certainly made by running water. Discovered initially by Mariner 9 and further investigated by the Viking orbiters, these channels are thought to be over a billion years old, the product of a now extinct Martian climate. The presence of impact craters superimposed on the channels are evidence for their great antiquity.

The sad truth about Mars, a planet which lived but briefly and probably never supported "life as we know it", takes away none of the romance associated with either Mars or the man whose name is forever associated with it. For anyone who has ever been held by the spell of Mars, with either the Mars of cold desiccated desserts or the Mars of "what might have been"- of Wells, Bradbury, and Lowell; a visit to Lowell's observatory is a certain must. The spirit of Percival Lowell is felt everywhere. The sense of history makes the Martian mystique palpable. Lowell may have been dead wrong about Mars from a factual standpoint, but without his bold assertions, the great efforts at sorting out the truth may never have been made.

In fact, Lowell may yet be proven right, after a fashion. The day will hopefully come when Man will colonize Mars. In order to obtain an adequate water supply, he will likely have to dig deep wells, probably in the polar regions. He may then construct an aqueduct system across the Martian plains (in sealed pipes!) to transport water to the settlements. Mars will

then have both Martians and canals; the Red Planet will live again.

Such were my thoughts as the Starship Buick Park Avenue vectored away from the Flagstaff System, returning to our Base in Galactica Tucsona. Rick Clark was once again in charge of the Warp Drive, which he used to great effect.

JULIUS STAAL:
Per Ardua ad Astra

By Don Barry

Julius Dirk Willem Staal, F.R.A.S., died this past 2 July after an extended illness, and it is perhaps appropriate to consider his place in Astronomy, here and in the world. Julius was born on 8 November 1917 in Djakarta, Indonesia, then a Dutch colony. A youthful bent for astronomy developed into a hobby, even as he studied engineering at the Royal Netherlands Technical college. Soon he was offered an apprenticeship at the Zeiss Planetarium at The Hague followed by work at a succession of Zeiss Planetaria, including Johannesburg, London, Baton Rouge, and Atlanta. At each of these, Julius not only became star performer, but often founded the very concept of the star theatre in the community with his innovative and popular shows. To many, he came to embody the very serenity of the night sky.

Along the way, he found time to codify his cross-cultural grasp of mythology in *Patterns in the Sky* (1961), *Focus on Stars* (1963), and *Stars of Jade* (1985), the last of which was an adaptation of the *Uranographie Chinois*, detailing ancient Chinese star legends. His worldwide acclaim from his books and shows was perhaps best brought home in 1974, when Fernbank hosted a world meeting of Planetaria hosts. Suddenly, it was clear that Julius was not only a local phenomenon, but the acknowledged elder of an elite, worldwide group.

After retirement from Fernbank in 1978, Julius acquired and refurbished a vintage Spitz 1-A projector and singlehandedly inaugurated Planetarium facilities at Agnes Scott College with his own instrument, which was used for classes and public demonstrations. This zest for life was demonstrated not only at club meetings, but personally, when several of us had the honor to escort him and his wife to observe Halley's Comet at Villa Rica in late March. At first glimpse of the natural sky he had not seen for so many years, he exclaimed, "I see the entire Goblet of Crater," and was moved to give an impromptu lecture on the legends of the vista above. He viewed the Whirlpool through the 20" scope and pronounced it the finest he had ever seen.

Perhaps, then, his essence could be glimpsed in comments by his friends and colleagues at his passing. One quoted, "It is not necessary to name a constellation after him, for I am convinced that Julius is already among the stars." And surely the cultivation of the transcendent, in music and star-legends, that he granted to us as we look up on a fine evening at the emerging stars, hearing his strains of Beethoven ushering in the dusk, has earned him a place among the immortal stars that he loved so much.

ABOUT THE NEW NEWSLETTER

By Dave Roberts

This year we're going to try something new with the AAC's newsletter. Up until now the newsletter production was pretty much a one person affair. Some poor slob in the club got conned into being newsletter editor for the year and was left to handle much of the writing, printing, and mailing on his own. Others helped where they could but the newsletter remained more a pain than a privilege.

A while back a bunch of us sat down and batted some ideas around about what we could do for the club. The first thing was to improve the newsletter and the easiest way to do that was to improve how it was produced. We knew it would be a lot of work so a newsletter staff was formed headed by our illustrious newsletter editor, John Marsh. At present a total of six people work on the newsletter writing articles, producing the final version, and generally trying to keep each other from being swamped with work.

We presently have an IBM PC AT and an XT at our disposal for word processing, printing mailing labels, and maintaining the club membership list. The master copy is printed on a Hewlett Packard Laserjet+ printer which is why it looks so *good!* Otherwise we would have to use a dot matrix printer which would not be as readable, or a typewriter which would mean a lot of cutting and pasting. The pages as you see them were generated completely on the laser printer.

Pat Frank (one of the staff) found a print shop called the Xerox Store which specializes in this type of production at the lowest cost. We wanted the club's newsletter to look good but felt a sheaf of pages stapled together at the corner would detract from its appearance. We opted for the 11 X 17 size since it looked the best and could have additional pages added to it easily. The best thing is that the printing charges are only a few dollars more than for previous newsletters, about \$33 per month for 200 copies. Additional pages beyond a single 11 X 17 sheet add to the cost. Pictures can be added at an additional expense but we'll use them when the budget permits (read: send money!).

We also hope to make the newsletter useful to the club members by providing a monthly observing almanac. To this end software has been written to calculate moonrise and moonset. We also have generated programs for comet and asteroid positions from orbital elements in the IAU circulars at Fernbank. Software for predicting artificial satellite positions is being investigated.

Although the newsletter has six writers we hope club members will help us out by submitting articles for publication. If you don't you're going to have to put up with reading about stuff the newsletter staff does, places the newsletter staff goes, things the newsletter staff thinks, and little else! We want to know what things astronomical you did on your vacation (most of your newsletter staff went to Kitt Peak and several other observatories a few months back. You'll read a lot about them if you don't contribute!). Astronomical observations and articles on equipment are more than welcome. Had a problem with an equipment dealer? Let other members know about it so they can avoid three month order delays. Letters to the editor will be printed on a space available basis. Of course everything you write has to pass the editors but we promise not

to change too much. And if we don't get enough voluntary submissions we will start *volunteering* people to make submissions!

As before members may advertise personal equipment for sale in the newsletter at no charge (non-members pay \$5). For the moment we want to avoid commercial advertising until we establish some guidelines and get input from the club membership. You can voice your opinion on this weighty matter by dropping us a letter.

Newsletter distribution outside of the club membership is also planned. We have selected a few science teachers in Atlanta high schools to receive the newsletter at no charge. Hopefully bright science students will learn of the club from these newsletters. Newsletters will also go to the Fernbank library, SERAL, the Astronomical League, and other astronomy clubs in the Southeast. If you have any suggestions for other recipients (*especially* teachers) please let us know.

Finally you may have noticed the name of the newsletter, "Ad Astra". It simply means "to the stars" and seemed much more original and interesting than "The Atlanta Observer" (sounds like a tabloid) or "The Sidereal Times" (hundreds of clubs must use that one). We apologize to the state of Kansas for ripping off half of their state motto.

DOWN PAT

an editorial by Pat Frank

Guten Abend!

Welcome to AD ASTRA! In this column I'll be talking about such diverse topics as planetariums, Halley's comet, dealer problems, cheap telescopes, star hustling, and perhaps even a few controversial things as well! I'd like to start off with a few words about this newsletter.

First of all, this paper would not be possible without the unmitigated ga- I mean unexcelled stupi- I mean unparalleled efforts of the people you see in the box on page one. We feel that the newsletter should be more than just a memo of meeting times and observatory sessions. It should also provide a medium by which the club members can voice their opinions and spark discussions on current issues in astronomy. We hope you agree! We have one of the oldest clubs in the Astronomical League (our fortieth anniversary is next year!) and our twenty inch telescope is one of the largest in the state. Exciting things are happening around here! And now we have a place to discuss them.

...Georgia State University has obtained some land in Hard Labor Creek State Park (about fifty miles east of the city) for its new CHARA project (Center for High Angular Resolution Astronomy) and other concerns. They plan to bring one of the now unused sixteen inch reflectors from atop Kitt Peak in Arizona to this new site, and build a facility to maintain it. This location should be darker than Villa Rica, being further out and to the less populated east side, raising the question of whether or not the club should look for an alternate site in the same area. We will watch and report....

...And whose brilliant idea was it to hold the SERAL convention on a Wednesday, Thursday, and Friday instead of the weekend? Didn't they want us working stiffs to attend? Oh well, maybe next year!....

...Kudos to WPBA channel 30 (local public television) for showing episodes of *Star Hustler*. The same episode runs for five minutes each weeknight at 12:30 and is hosted by Jack Horkheimer, the director of the Miami Space Transit Planetarium. Comets, meteor showers, and other upcoming events are discussed as well as the current night sky. Marty Plemons at WPBA reports that the show must be doing well for whenever it isn't on, "we get phone calls!" she says. Watching *Star Hustler* one cannot help but be caught up by Mr. Horkheimer's rather enthusiastic approach....

...Halley's comet has finally left us for good. And isn't it about time? This wholly forgettable experience has left us with one sole advantage - telescope prices are falling drastically....

...Rumor has it that certain officers are planning a club picnic in October or November. Actually it's not a rumor - we need your help! If you'd like to help us run a picnic at the observatory on a Saturday this fall then please let us know. More than seventy-five people showed up last time, and that was during the summer hiatus!

Fair Skies!

CLASSIFIED

Celestron 50mm-2" Ploessl(new) for sale \$50

Contact Bob Loewenthal -- 934-1237

Optec Photometer SSP-5 Good condition with books \$500

Contact Terry Morris -- 943-5113

Unitron 3" refractor and accessories, 10" f/6 Meade mirror in tube assembly-all \$400. Bud Rosser - 972-3700 or 498-1240

OBSERVER'S ALMANAC
Times of Moonrise and Moonset (All EDT)

Date	Rise	Set	Date	Rise	Set	Date	Rise	Set
9-1	02:16	16:57	9-22	20:01	09:43	10-12	14:40	00:09
9-2	03:19	17:30	9-23	20:38	10:43	10-13	15:13	01:17
9-3	04:21	18:00	9-24	21:20	11:41	10-14	15:42	02:23
9-4	05:25	18:29	9-25	22:09	12:37	10-15	16:09	03:27
9-5	06:28	18:56	9-26	23:03	13:28	10-16	16:35	04:28
9-6	07:32	19:24	9-27	---	14:13	10-17	17:01	05:29
9-7	08:38	19:53	9-28	00:02	14:53	10-18	17:28	06:29
9-8	09:46	20:27	9-29	01:03	15:29	10-19	18:00	07:29
9-9	10:56	21:07	9-30	02:06	16:00	10-20	18:34	08:30
9-10	12:08	21:56	10-1	03:09	16:29	10-21	19:15	09:30
9-11	13:17	22:52	10-2	04:12	16:56	10-22	20:01	10:27
9-12	14:21	23:58	10-3	05:17	17:24	10-23	20:52	11:20
9-13	15:15	---	10-4	06:24	17:54	10-24	21:49	12:07
9-14	16:01	01:08	10-5	07:33	18:27	10-25	22:49	12:49
9-15	16:39	02:19	10-6	08:45	19:05	10-26	23:49	13:26
9-16	17:11	03:28	10-7	09:58	19:51	10-27	---	13:58
9-17	17:40	04:35	10-8	11:09	20:47	10-28	00:51	14:27
9-18	18:07	05:39	10-9	12:15	21:50	10-29	01:53	14:55
9-19	18:33	06:40	10-10	13:13	22:59	10-30	02:57	15:22
9-20	19:00	07:41	10-11	14:00	---	10-31	04:03	15:50
9-21	19:29	08:42						

Lunar Phases

Month	New Moon	First Qtr	Full Moon	Last Qtr
Sept.	4 3:10	11 3:41	18 1:34	25 23:17
Oct.	3 14:55	10 9:28	17 15:22	25 18:26

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