DETROIT ASTRONOMICAL SOCIETY

Volume 4 No.10 **Newsletter** FEBRUARY 1968

9900 EAST JEFFERSON DETROIT, MICHIGAN 48214

THE PRESIDENT'S CORNER

Dr. Gerhard Blass.

I really was not in an elated mood. Because of an accident, my son had needed an operation and had spent Christmas in a hospital in Boston. Now, on the Wednesday between Christmas and New Year's Day I was on a jet plane to Boston to bring him back home to Detroit. Because of the short notice the only reservation I had been able to get was in the first-class compartment far in front of the noisy jet engines. We were gliding quietly through space with an ocean of fluffy clouds far beneath. After a while those layers of clouds broke up, soon we could see the ground - - and there came through the loudspeaker an announcement by the captain of the plane that within the next 20 seconds we should be able to see the Niagara Falls deep down to our right. When my neighbor sat down again, obviously deeply impressed by what he had seen, I said, 'I wish one could take some of those beatniks up here.' 'Why that?' he asked. And I tried to explain: Whether a person just hates society, or whether he is a rugged, self-confident individualist, he cannot build himself a plane like this and participate in our present experience.

Experiences like this mean that we benefit from the achievements of the Society we live in. I am thankful for being part of our Society, of being able to make my worthwhile contributions, and in turn, to reap some of the success. It turned out that my neighbor traveled for IBM, and we talked about how independent scientists at different research centers use one and the same computer facilities through telephone connections, facilities which none of them could afford for his exclusive use - - - but through sharing with others the most fantastic opportunities come into the reach of individuals.

This seems to be the challenge of our time: Maintain *Individuality* within a complicated *Society*. And the key-idea seems to be *'sharing'*.

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Sunday Meeting FEBRUARY 11 at U.of D. Science Bldg.

Our Mr. Sun is the first of the Science Series movies produced by the Bell System.

In full color and sound, it tells the story of the Sun - - its chemistry, its past and future and dramatizes how our life on Earth depends on our nearest star, *Our Mr. Sun*.

Invite your friends. Meeting is at 3:15 pm. February 11 at U. of D. Science Building - -Free admission and parking.

Special Event April 27

Watch for more information about the D.A.S. Annual Banquet.

SPLASH AROUND

Last month we invited you to dive in - - Join the Swim in the main current of Society activities. We have heard from quite a few folks but there is still room in the water for more,

If you would be interested in helping out on Friday evenings with telescope making, the photographic group, running a movue projector, working at the snack bar, or just be there as a host or hostess to make sure visitors don't feel lost - - we can use your help.

Or - - if you would like to bring your tele-scope to star shows - - or help at star shows or exhibits - - you would be more than welcome. Or - - perhaps you would want to help complete our observatory,

If you think you might like to do some of these things - - send in the slip from last month's Newsletter,

If you don't have the last issue any more, just call Doc Marshall in the evening at: 535-7117. *Jump In and Enjoy the Fun ! !*

February Program of Events at Sylvia Allen Center

Friday, February 2, 1968
8:30 p.m. - 'The Sun's Shadow'
(Lunar and Solar Eclipses)
Speaker Dr. Gerhard A. Blass

Friday, February 9, 1968
8:00 p.m. - 'Newton, the Man'
Speaker: M. Lawrence Applebaum

SUNDAY, FEBRUARY 11, 1968

Monthly Meeting at U of D Science Bldg.
Livernois, south of McNichols
3:15 p.m. - 'Our Mr. Sun' (see page 1)

Friday, February 16, 1968
8:00 p.m. - 'Lasers in 3D Pictures'
Speaker: Gerald Gainor

Friday, February 26, 1968
8:00 p.m. - 'Long Exposure Photography'
Speaker: Larry F. Kalinowski

Friday, March 2, 1968
8:00 p.m. - 'Up and Down With the Sun'
Speaker: A. G. Leigh LaChapelle

Circle April 27 for the Annual Banquet.

We wish to welcome

. . and doubly so as we merge 1967 and 1968 with our December and January Greetings to . .

G. Edward Bachman, a long time friend of 'Doc' Marshall (way back to their 'Scouting Work' days) and active member at the Gem and Mineral Exhibit. Hope you sent in a choice from Doc's article 'Join the Swim' for an active part in the D.A.S. too.

We hear that Donald E. Campbell thought for a while that D.A.S. astronomers used shovels and saws instead of telescopes. He and wife, Jean, camped at Rattle Run Site last fall and worked on the Observatory Project. We also want to say thanks for the color movie 'Northwest Ontario' on the Jan. 19 program - - Good luck with your Maksutov Telescope, Don.

Barry Carl Carter has a double interest: lunar observing and astrophotography. He does his observing with his 3 inch Unitron with clock drive - - we wish you success with your 'special desire to photograph nebulae and other deep sky objects'.

Ben Delphia corresponded with the D.A.S. after hearing about the Society at the Cranbrook Planetarium. We would like to know more about your observing program far from the city lights.

Gabor Dobos has added his name to the Junior section after visiting the Allen Center with Roger Gall. He and

Edward Carl Gatfield, who came down to the workshop with Chris Edsall, have been working on the darkroom. (We hope Roger will write an article soon about his trials and tribulations with the darkroom project.)

LeRoy Fleming is a familiar name and we were happy to see him at the January Sunday Meeting. We're glad you're back and hope you will have time to give another 'talk' on Acu Star.

Greg Landis from Southfield is another stargazer added to the Junior roll call. His interest in astronomy is enriched by his 2.4 refractor.

Richard B. Morris and his Dad met the D.A.S. at the December Sunday Meeting. Richard has started a 6 inch Newtonian and (Doc Marshall please note) his Mother has offered to work at the Snack Bar !

We understand that Ray Pendrys is working on a Society project - an article to be in a 'near future' Newsletter. Watch for it and more about Ray at that time.

Ed Rockguemore was introduced to the Society by Rev. John Morel. He's working on a king-size group project - - a l0 inch reflector and making excellent progress.

Mark Schuetz, entering 10B at Cass Tech, is busy finishing a 6 inch reflector. Steven Biondo, whom you met last June in this column, introduced Mark to the Society. We mentioned Steve's ardent interest --- and that attribute applies to Mark also.

John Schultz has been interested in tele¬scopes for many years and is presently at the 'polishing stage' with his 8 inch mirror. Mrs. Schultz stopped by to say 'hello' at the Christmas Party with a promise to revisit the 'family hobby center'. Welcome!

And our last Greeting is extended to a brand new member who made her debut when the D.A.S. workshop was located at the Elmwood Recreation Center. Bill Whitney, once upon a time a D.A.S. Junior but now in the 'old timer' class, has converted his Regular Membership to a Family Membership. We look

NOVA DELPHINI began its rise in magnitude about June 12 according to Sky & Telescope.

It was on July 8 when Mr. Alcock discovered it at magnitude 5.8. Since then the nova has been very surprising.

I first observed the nova on Aug. 3 when its magnitude was 5.5. The nova rose slowly during the month until in early Sept. it was at magnitude 4.8. It varied slowly during the next month. An example of the way it varied: Sept. 22d, 4.8; 24h, 4.9; 25h, 5.9; Oct. 1st, 4.7; 2nd, 4.9. Ch Nov 5 it rose to 4.·6 and then began declining until on Nov. 15 Nova Delphini was at magnitude 5.4. This was its lowest since August. It raced up from there to mag. 3.9 on Dec. 13. My latest observation of the nova was on the 19th and at that time the magnitude was 4.2.

Nova Delphini has been at its height for almost 200 days and doesn't seem ready to decline. This opens the door for the beginning of an observing program as it is easy to find, and any low power instrument can be used.

Charles Morris

*Ed. Note: Mr. Morris has used a nearby comparison star of magnitude 4.8 to determine the visual estimates cited in his report.

WELCOME . . Cont. from page 2

forward to seeing Bill and daughter Eileen at the Allen Center on Friday evenings - - and we look forward also to Eileen becoming as active a Junior as Dad was.

WELCOME ONE AND ALL

PIC TIPS

by Larry F. Kalinowski

One of the numerous problems the beginning astrophotographer runs into is the selection of a proper film. The right film, to a very great extent, depends on the subject to be photographed. Bright objects such as the sun and moon require a 'slow' film. Dimmer objects like stars or planets require a 'fast' film.

The terms 'slow' and 'fast' refer to the ASA rating that is given to a film by the manufacturers. This rating can be found on a little slip of paper packed in the film box at the time of purchase. To put it simply, the ASA ratings are a method of comparing films to each other. As an example, let's compare two films, one with a rating of 100 ASA and the other with a 500 rating. As quick as a wink you can tell the second film will only require one-fifth the

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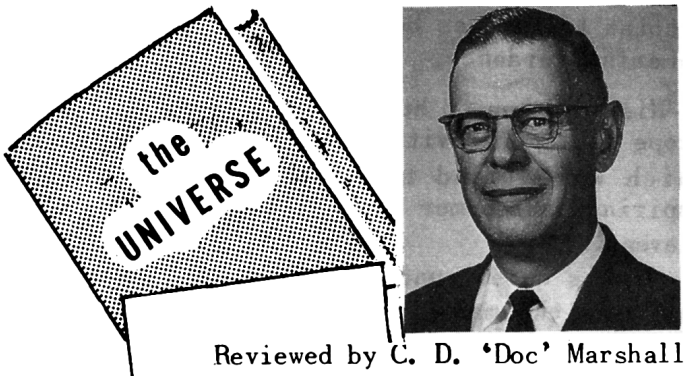
The BOOK CORNER

If you know of a particularly good book you think should be included, call Doc Marshall at 393-6631 days or 535-7117 evenings.



Reviewed by C. D. 'Doc' Marshall

THE UNIVERSE - A Scientific American Book
142 pages, Paperback, in the Society Library,

Rather than being a 'book' written by one author, this volume contains 11 articles, by different authors, which appeared in the September 1956 issue of Scientific American. It also includes 22 photographs, mostly of deep-space objects, from Mt, Wilson, Palomar and Harvard Observatory.

Howard Robertson traces cosmological ideas from the early Babylonians and Greeks to the present. A delightful capsule of the changes in men's minds about the universe in which he lives.

William A. Fowler presents the current (1956) theories about how the elements originated.

Walter Baade, Jan H. Oort and Rudolph Minkowski respectively discuss the content, evolution and collision of galaxies,

George Gamow and Fred Hoyle offer their contradictory theories of the evolutionary versus the steady -state universe, The Allan Sandage, Jerzy Neyman and Elizabeth Scott, Martin Ryle articles are concerned with observational tests provided by the red shift, distribution of galaxies and radio galaxies.

In conclusion, Herbert Dingle talks about cosmology and science, He emphasizes the basic fault of earlier astronomical philosophers in trying to force observed phenomena into presupposed unalterable 'principles'. He points out that modern science draws general principles only from observation and is willing to adopt new principles when more observation invalidates the old principles.

This book is very thought provoking and fascinating to study. While it is written in non-technical style, such a profound subject cannot be skimmed through rapidly.

JOHN LANG

John F. Lang, long time member of the D.A.S., passed away on January 20, 1968. To his many friends, Mr. Lang's death came as a surprise and shock. For more than l0 years a countless number of D.A.S. members completed their optically precise telescopes because of his patient and cheerful guidance.

His workshop at home was the scene of telescope making activity, also - the products of which would find their way to some young. aspiring astronomer who longed to observe the heavens.

John's quiet, unassuming manner tended to minimize the many, many hours he devoted to Society activities. Those who had the privilege of working with him at exhibits, star shows, etc. knew his loyalty and dependability as the fiber of the D.A.S.

A Society Faculty Member since 1964, John was faithfully assisting in the telescope workshop Friday evening of January 19. His sincere interest in helping others and his dedicated Service to the Society will be missed by all.

PIC TIPS . . Cont. from page 3

amount of light as the first to record the same subject. The second film is five times faster than the first, ASA ratings range from near zero to about ten thousand. The extremely high or low ratings are not readily available to the general public and must either be purchased at a photo store or ordered by that store from the manufacturer. However, your local drugstore will probably have available something in the range of 25 to 500 ASA films in both color and black and white. The average snapshooter's film is usually around 64 ASA.

This writer classes all film under 50 ASA as 'slow' film. Over 50 and below 150 I'll call 'medium', and above l50, 'fast'. As you get to know film a little better your opinion and mine may differ as to which are slow or fast, but for the time being you'll have a guide for getting started.

Before you decide the fast films are for you, consider this: In order to produce a fast film, the manufacturer must use larger grains of silver on the film base. This is a disadvantage because the grains are much easier to see on the finished print, especially if the print is to be enlarged to any extent. The large grain structure destroys any small detail that may exist. If you're taking a picture of the moon, do you want fine detail and longer exposures or less detail and shorter exposures? The choice is up to you. Most experienced Astrophotographers would choose the slower film. Generally, it is best' to use the slowest speed film possible without making exposures abnormally long. Occasionally the fast film will have to be used for lunar photos but this is the exception and not the rule.

Here is a short list of film that is available and their ASA ratings:

FILM		ASA RATING
Kodak	Verichrome Pan	125
"	Plus X	125
"	Panatomic X '(35 mm)	32
"	Panatomic X (Roll)	40
"	Tri X	400
"	Royal X Pan	1250
"	Infrared	20
"	High Speed Infrared	80
"	Direct Positive	80
"	Kodachrome II	25
"	Ectachrome X	64
"	Kodachrome X	64
"	High Speed Ectachrome	160
"	Kodacolor	64
"	Kodacolor X	80
"	2475	1600
"	2485	5000
Ansco	100	100
"	200	200
"	500	500

FROM THE D.A.S. JANUARY MONTHLY MEETING

It was the 'grand and glorious finale' to the Junior Award Classes which began March 24, 1967 - when Dr. Blass presented Astronomical League Jr. Certificates to the 7 young astronomers pictured below. (Neil Gravenstreter also completed the requirements, but could not attend the meeting.)

The Program (with Mr. Kalinowski as M.C.) featured various subjects chosen by speakers: Harold Cooper, John Hayes, David Blake, Joel Golds tick and Charles Morris.

Photo by Ken Burgess

l to r. back row: Larry Kalinowski, David Blake, Cass Singer, Charles Morris, Chris Edsall, Dr. Gerhard Blass. front row: Harold Cooper, Joel Goldstick, John Hayes.

Eclipse Report

"Vi" Love

'The Unscientific Side of the
South American Eclipse'

Chapter VIII - MACHU PICCHU

by V. E. 'V' Love

Tuesday, November 15, 1966

After a hasty breakfast at 6:00 a.m., we were transported to the R.R. station to begin our journey to Machu Picchu. Some of the drivers were more considerate of their passengers than ours and drove to the loading platform. Our chauffeur parked at the main entrance. Seems logical, but across the street was the market building with people camped all around it. The steps at the station entrance were many and wide and provided additional space for sitting and sleeping. The aroma was most uninviting. We gingerly threaded our way through the occupants of the stairs and huddled on the boarding platform.

At 7:00 a.m. we boarded a diesel railcar which had been in service just two weeks. It was still new and clean. The seats were comfortable, the windows designed with a minimum of obstruction and there were additional sky-light windows in the roof which made it possible for every passenger to see even the highest peaks in comfort.

Since Cuzco has mountains on 3 sides, we knew that we were about to have an exciting ride. I thought it might be the same one that had been shown in one of the first 'Cinerama' movies, but it wasn't. We ascended the mountain on narrow gauge tracks (not cog) by a series of switchbacks. This was my first experience with this type of maneuvering. The train would go forward on a 10% grade, then backward up the next grade, forward on the next etc., until we reached the top at a little over 12,000 ft. Then we began our zigzag descent in the same manner on the other side. Edgar, with his engineering background, observed this accomplishment with great interest and thought it a most ingenious arrangement under the geo-graphical circumstances. Our party occupied seats in the rear of the coach. The front section was occupied by a group from California. They were accompanied by their own travel agent, a very personable young man who spoke Spanish.

Machu Picchu is 75 miles northwest of Cuzco, 3 hours by train. The first part of the trip was across the Anta Plain. This was a beautiful fertile valley with an occasional hacienda surrounded by orchards, gardens and pastures for cattle. A road' ran parallel to the R.R. tracks for a few miles before turning into the moun-tains. We exchanged greetings with a busload of natives from time to time. The train made several brief stops at small settlements, but time did not permit our leaving the car. Everyone seemed curious about the new train filled with gringos. All along the route we could see terraces high on the mountains, ruins of old Inca forts and even a wooden bridge which still used the foundations built by the Incas.

After crossing the valley, we entered a series of canyons, each one becoming narrower. Finally we entered a V-shaped canyon where the roadbed had been carved at the base of the mountain. In some places through solid stone. The walls of the gorge were almost verticle on our side and very steep on the other. Beside the track was the fast flowing Urubamba River the headwaters of the mighty Amazon River. Through the overhead windows we saw a continuous panorama of majestic peaks, often snow-capped. Our guide pointed out two glaciers high in the mountains. Slowly we progressed through the Sacred Valley of the Incas, an inspiring approach to the archaeological climax of our trip.

One of the interesting sights en route was a 'galloping goose'. Those of you who have watched Stan Midgely on TV may remember his tale of the small bus that ran on narrow gauge R.R. tracks out West. Seems someone in Cuzco had the same idea for carrying passengers and small amounts of freight into the jungle.

We arrived at Machu Picchu and the end of our rail trip at 10:00 a.m. The elevation here is 6500'ft. There were no homes, just a few freight buildings and one that houses an embryo museum. Our destination was 2000 ft. away ¬straight up! As we left the train, we could see a road with a series of switchbacks (13) and a tiny bit of red that we later found to be the roof of the hotel. The journey upward was undertaken by Volkswagen mini-bus and took 15 minutes one way. Not too long ago one reached the

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1966 Eclipse Report

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top by mule-back in a half day. There were so many people on the train that our group had to wait a half hour until one bus returned from the top. The luggage was packed on top the VW and we were jammed inside like sardines, There were even fold-down seats in the aisle. It is still a mystery to me how that tiny overloaded bus negotiated the hairpin turns without mishap.

...continued next month)

SOLAR ACTIVITIES

by Charles Morris

The giant sunspot groups of December 19 quickly died out until there were only 4 spots between them on the 23rd. With a new group forming on the east limb the total number spots recorded for that day was 6. This new group grew to l6 spots on the 26th. While maintaining the l6 spots on the 28th, a new group was forming in the same manner and in the same latitude. On the 28th this new group contained only two spots, just like the other group had, Lying just to the south of it was the smallest group recorded that day as far as size goes, This group had three very small spots in it which brought the total to 21 spots, On the 31st I made out 47 spots before bad weather came in while Neil Gravenstreter recorded 59 spots with his larger 4 l/4 inch Tasco.

The sun started off 1968 with a bang and then began a period of low activity. On January 1 the sun had gained one small group from the 31st, The oldest group now on the sun had dropped from the l6 spots to 8. The two spots in the second group both had split into two and now the group contained 4 sunspots. Those 3 tiny sunspots that were on the sun the 28th had developed into 14 sunspots by the lst. The total number of spots counted on this day was 28. On Jan. 6 and 7 three large groups covered the sun, On the 6th I counted 25 spots and on the 7th, 40. On Jan 7 Neil Gravenstreter passed up all of my highs when he recorded 112 sunspots with his 4 inch. The biggest group recorded by Neil contained 39 spots and the smallest contained 1 spot. Altogether he sighted 6 groups. On Jan. 9 I was able to count 9 sunspots. From the l8th to the 23rd the sun had no activity at all. On the 24th I recorded one large spot that appeared on the east limb. On the 25th I made my 196th observation since January 29, 1967. It appears from this observation that this group may be of the group seen last February*. It would be a good idea to follow this group,

As the sunspot cycle reaches its high point in 1968 there are going to be more and more large and interesting sunspot groups. Because of this, the D.A.S. Solar Section is hoping that more people will take up this fascinating hobby of sunspot counting, or, as Mr, Anthony Grabowski has done, study solar activities in relation to weather predictions.

It cannot be *emphasized strongly enough* that your Solar Observing should be *by projection on a screen.*

If you think you have even the slightest interest, please contact Mrs. Lloyd or 'phone me at 646-1471.

*See May 1967 Sky & Telescope

Bulletin No. 1 for the 1968 Great Lakes Convention has arrived,
Grand Rapids, Michigan. August 9-10-11, 1968

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