VIRGINIA JUNIORS

Starting on its second year, and with membership climbing at a gratifying rate, the Virginia Juniors have turned their attentions outward toward research and experience-building observations. Already completed in this line is a research study of color on the moon. Presently underway is an investigation of the polarities of sunspots and a giant "Book of the Sky" program which promises to be a highlight of the next few years. A sunspot record and chart is also currently being prepared by Eddie Lusby, Bob Bergseth, Fred Sumner and myself. Under consideration by George LoGuirato is a radio map of the heavens to be made with his home built radio telescope. Also in the planning stage are variable star estimations, charts of the dusky markings of Mercury and Venus, and observations of Jupiter and Saturn.

Aiding our research capabilities for the coming year is a gift of thirteen polarizing filters, donated by a member of the custodianal staff of the Westover Baptist Church. Augmenting these objectives will be lectures given to our group by members of the Naval Observatory staff.

This looks like a year to remember; so I think that it would pay to keep your eyes on the Virginia Juniors. Any Virginia Junior not a member of our club and wishing to take part in our activities is welcome to call me at JE 2-1678 for complete details.

Barry Sperling
President, VA JRS

JUNIOR DIVISION NEWS

The Junior Convention was held Saturday, January 16, at the Department of Commerce. It was decided that there would be two leaders; one in Virginia and one in the Md. - D.C. area, for the Mars, Jupiter, Saturn, Venus and Solar projects. There was too much work for one person, and now, with two leaders, an observer can work in closer coordination with his local project head.

Planetary, lunar, solar, and artificial satellite project ports were given. The dates for World Nights are: July 1,2,3; July 29, 30, 31; and August 19, 20, 21. The plans for World Night are the same as last year. It was agreed that letters should be sent to as many as possible of the astronomical groups listed in the October, 1959, issue of SKY AND TELESCOPE, asking them to work on the World Night program. Standard disks for Jupiter and Saturn would be sent to these groups as well as groups in Britain,Russia, Australia, and the Union of South Africa.

We all wish to congratulate Sam Friedman who has been chosen as one of the 40 finalists (out of 4,900 entrants) in the Westinghouse Science Talent Search. Sam was picked for his work on Saturn. A large part of his work was done with the NCA's 5 inch refractor.

Jim Harrison
MD-DC Jr. Editor

☆ STAR DUST

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Dr. Hall to Speak on "Time"

DR. R. GLENN HALL

Modern technology demands precise measurement of time, and therefore, the determination of time today must by necessity be an exact science. The determination of accurate time is an extremely complicated process. Through the years, the U. S. Naval Observatory has been a leader in this field, and it is a privilege to have a representative of the Observatory's Time Service speak to us on this subject. Dr. Hall will define the many different kinds of time, and he will describe how astronomers compute time from celestial observations. Also he will explain the use of Ephemeris Time in the AMERICAN EPHEMERIS AND NAUTICAL ALMANAC for 1960.

Dr. Hall is the Assistant Director of the Time Service Division of the Naval Observatory. He obtained a B. A. degree from Park College in Parkville, Missouri in 1941 and a Ph. D. degree in astronomy at the University of Chicago in 1949. He was an instructor and research associate at the University of Chicago until 1953 when he came to the Naval Observatory. In addition to his work in time determination, Dr. Hall has done research on the mass ratios and orbits of binary stars.

* * * * *

MARCH MEETINGS

2,9,16,23,30 - TELESCOPE MAKING CLASS 7:30-9:30PM Bladensburg Mat. Center, 4600 Varnum Street with Bill Isherwood
4,11,18,25 - TELESCOPE MAKING CLASS 7:30 PM, Fairfax High School. Grady Whitney, Instructor
5 - THE DETERMINATION OF TIME - Dr. R. Glenn Hall, Business meeting follows. Dept. of Comm. Auditorium, 8:15 P.M.
7,14,21,28 - TELESCOPE MAKING CLASS 7:30-10, Chevy Chase Community Building, 5601 Conn. Ave., Hoy Walls, Instructor.
11,25 - VIRGINIA JUNIORS MEETINGS at Westover Baptist Church, 1125 N. Patrick Henry Dr., Arl., Va., Room 234, 8 P.M.
12 - MD-DC JUNIORS MEETING - Chevy Chase Community Building, 5601 Conn. Ave., NW, 2:30 PM. LEITH HOLLOWAY will lead a discussion on comets.
12 - 13 - LUNAR ECLIPSE
19 - DISCUSSION GROUP - "THE GRAPHIC TIME TABLE OF THE HEAVENS" led by Bob McCracken. Foyer of Dept. of Comm.8 PM
25 - OBSERVING AT THE 5" - 7:30 PM at Naval Observatory with Larry White. NCA Card will admit you.

* * * * *

ON GALACTIC CLUSTERS

At the February meeting, Dr. Otto Franz of the U.S. Naval Observatory spoke on "Galactic Clusters and Stellar Evolution". The meeting was extremely informative and well attended.

About one hundred years ago astrophysicists started the study of the physical properties of stars;mass by an application of Kepler's laws to binary systems; luminosity by means of photographic photometry and photometric photometry; and surface temperature from the distribution of the spectrum.

He discussed the Hertzsrung-Russell diagram which is a plot of absolute magnitude versus stellar temperature. This diagram shows a main sequence running from hot bright stars at the upper left to cool dim stars at the lower right. These stars are mainly Population I stars which occur in open clusters such as the Pleiades and in the spiral arms of galaxies. In the upper right are cool bright stars, red giants, which are Population II stars. As stars near the end of their atomic fuel supply, they begin to expand and cool and thus move from the main sequence to the upper right of the H-R diagram. The age of a cluster can be determined from this movement. At the end of the evolution cycle when a star has exhausted its atomic fuel and has only residual thermal energy it becomes a white dwarf. The process by which red giants become white dwarfs has not been investigated. There is still a great deal to be learned about the physical properties of stars and their evolution.

Ellen Stolarik

LUNAR ECLIPSE DUE IN MARCH

There will be a total eclipse of the moon on the night of March 12 - 13. The total phase will be between 5:38 and 7:06 A. M. E.S.T. Saturn will occult the 9th magnitude star B.D. -21° 5359 between April 29 and May 1. The planet is moving very slowly, having started retrograde motion on the 27th. Saturn's rings should begin to cover the star near 11:00 P.M. on April 29th. Occultations of this sort are quite rare. Look for ETA AQUARID meteor shower on the night of May 4-5.

Larry White

COMET BURNHAM TO BE VISIBLE TO NAKED EYE IN APRIL

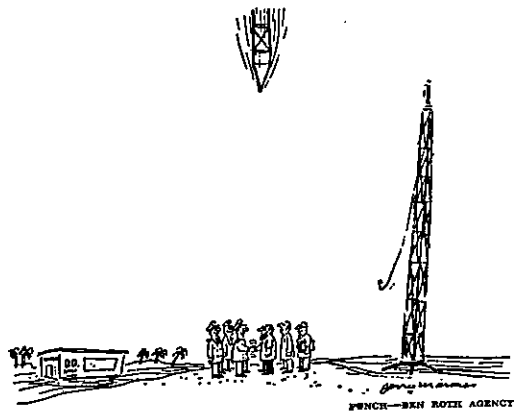
According to Harvard Announcement Card 1467, Comet Burnham (1959k) may be as bright as the third magnitude in April when it passes within 20 million miles of the earth. It will be seen best in April and early May as it rises out of the northeast in the evening hours. During this period it will become circumpolar and pass through the bowls of both dippers at speeds up to 10 degrees per day. At this rate the comet will travel the width of the full moon in a little over an hour.

MOON-WATCH.....1955 - 1960

In July, 1955, the President announced our satellite program and thus began a series of events which would eventually result in our own Moon Watch teams. On January 25, 1956, in a speech in New York, Dr. Fred Whipple announced that he was going to ask for visual observers for this program. Several days later the Astronomical League was called upon for aid. The Astronomical League Committee was then formed. When this committee later met at Dickinson College, they soon realized that their group was too small for such a large, national program. The outgrowth of this meeting was the formation of the National Advisory Committee to the Smithsonian Astronomical Observatory at Cambridge, of which Bob Wright was made Chairman.

Thus began a long series of meetings many of which took place at the Wrights. Bob Dellar assembled, and Roy Walls made, the first lens combination which was adopted for use by all Moon Watch teams. After the first Convention in Miami in July, 1956 - the theme of the program being, "Zero Minus One Year" - Bob returned to Washington and built the first portotype Satellite Station. The Smithsonian called a press conference on October 13, 1956 at which the station was presented to the public. The press from all over the country were present and pictures were run in magazines and papers all over the world. In June of 1957 Bob presented his Satellite imulator at the Middle East Regional Convention. Since then it has been copied for several other teams. This was merely one of many devises used that summer to train future observers who were busily preparing for expected firings. October 4, 1957 found Bob in Iowa,horrified that he had missed the Russian firing. Nevertheless, he rushed home and was still one of the first to sight Sputnik I.

The late Bob Dellar had a most active Springfield, Virginia Tracking Station composed of NCA members. These two teams have worked diligently observing, monitoring, and taping the voices of the satellites with Bob's "Radio Telescope". At present, arrangements are being made to visually observe Shotput III(100' balloon) which will be fired on February 18. This group is also standing by anxiously awaiting an opportunity to observe bigger and better "birds" as they get closer and closer to the moon.



NCA MEMBER BECOMES FINALIST IN WESTINGHOUSE SCIENCE TALENT SEARCH

The NCA is proud of Sam Friedman, a member of our Junior Division, who was selected as one of the 40 finalists out of nearly 4500 entrants in the Nineteenth Annual Science Talent Search for the Westinghouse Science Scholarships and Awards. As part of the competition, entrants must submit a report on a piece of original scientific research. Sam's project report entitled, "An Analysis of Observations of Dark Markings in the North Equatorial Belt of Saturn", was based on drawings made mainly at the NCA's five-inch refractor at the Naval Observatory.

TIME TABLE TO BE STUDIED

All NCA members receive the Graphic Time Table of the Heavens put out by the Maryland Academy of Sciences, but probably few of us are aware of all the wealth of information displayed on this chart. At the March discussion group meeting, which will be held under Bob McCracken's able guidance, we will study this chart and learn how to use all of its many features. Please bring your own copy of the Time Table to this meeting.

TELESCOPE FOR SALE

Many of our members may be interested to know of the following telescope for sale. It is a 4-inch Refractor made by Tinsley in California and was worth $430 when new. Mr. C. R. Reed will accept any reasonable offer and can be reached at GA 4-8092.

NEW MEMBERS

Regular

Harry L. Bibber	4513 Woodlawn Dr., Alex., Va.	RO 8-3393
Ira Dye	809 Crescent Dr., Alex., Va.	OV 3-2033

Juniors

Duncan D. Dewar	1518 N. Garfield St., Arl., Va.	JA 7-0070
Byron Edmondson	4204 54th St., Arl., Va.	JA 2-4591
Richard Kerr	6502 43rd Ave., Hyatts., Md.	UN 4-0076
David Robinson	11029 Waycroft Way, Rockville, Md.	WH 6-2145

* * * * * *

From "A Space-child's Mother Goose"

Humpty-Dumpty sat on a wall
At 3 O'clock he had his great fall.
The King set the Time Machine back to two.
Now Humpty Dumpty's unscrambled and
good as new.

MEET THE WRIGHTS

No story of NCA activities would be complete without the inclusion of Bob and Perky Wright. Members since 1945, they can be seen at virtually any NCA activity and have served the NCA in almost every capacity - each of them having been president for two terms, and secretary, vice-president, and trustee at one time or another. The most important thing about the Wrights, however, is their general down-to-earth philosophy which they manage to permeate throughout the society. Bob fears that every once in a while we must be reminded that our purpose for banding together is to enjoy astronomy and not get too carried away with jobs that will keep us away from our stars.

Astronomy has made friends all over the world for these frequent conventioners. Much of this traveling was the result of Bob's necessary presence at League meetings since he was Regional Chairman for two years and President of the National Astronomical League in 1951-'52.

The Weather Bureau brought them both to D. C. Bob's ability and interest was discovered by a Weather Bureau employee working in St. Louis and he was promptly sent for. His interest in science has been inherited from his father and enhanced by a vivid recollection of Haley's Comet's 1910 visit. Perky had arrived at the Weather Bureau from Bristol, Connecticut, some years before and this most natual combination of forces finally merged in 1952 while Perky was the NCA president.

Then began what seems to be a strenuous existance in a most relaxed twosome. They both collect and do everything. From coins to stamps to old astronomy books to streetcar tokens to covered bridges to geneology to ham-radio to astronomy seems like quite a jump, but its all in an average evening with the Wrights.

A description of Bob's basement, with its tracking station, dark room, strange assorted tools, and hundreds of parts, jars of watermelon pickles - Bob's specialty - and the makings for Bob's second batch of soap and Perky's chair caning supplies, is beyond my limited power. Even a description of his yard is unbelievable. An untrained observer would certainly believe he had arrived at a branch of the Bureau of Standards with antennas popping up all over the place like mushrooms, a large size area for the Moonwatch Tracking Station, and a good size observatory complete with sliding roof and all of the little luxuries nice observatories contain.

In one small section of the yard, stands one small symbol of the very most important interest of the Wrights. It's a swing set usually occupied by one small blond named Susan-aged 5 and a half.