

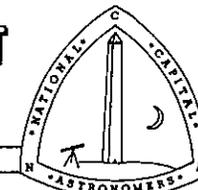
JUNIOR DIVISION PLANNING TRIP

Members of the Junior Division are planning a trip to New York's famous Hayden Planetarium. This venture, tentatively scheduled for Dec. 11, will include a chartered bus trip to the planetarium-Museum of Natural History complex and admission to the planetarium's Christmas show. Present plans are for the bus to leave the Commerce Department early on the morning of the eleventh and return there late that night. Round trip for \$11.00, including entrance fees.

The trip is open to both junior and senior members and their guests; and all interested parties are asked to contact Carol Farlow, Junior secretary (phone 560-1397), so that an estimate of interest will be available in dealing with the bus company.

B/B
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STAR DUST



November 1965

Vol. XXIII, No. 3

FATHER HEYDEN REVISITS NCA -WILL SPEAK ON THE HISTORY OF COSMOLOGICAL TIME SCALES



Father Francis J. Heyden

The NCA will present Rev. Francis J. Heyden, S.J. of Georgetown Univ. Observatory as the guest lecturer on the evening of November 6.

The question of the age of the earth, of the solar system and of the universe has never been answered with any degree of finality. With the discovery and application of each time scale the age of the earth and of the universe becomes greater.

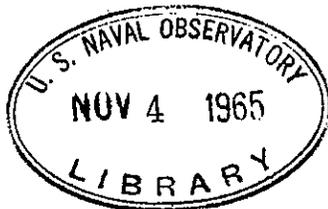
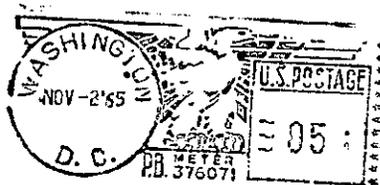
It is interesting to trace the history of the time scales with the progress of history and speculate a bit on what the future applications may bring. Certainly they will have significant influences on the astrophysicist who is concerned with the quasars and ordinary stars and on the cosmologist who is concerned with the structure

and development of galaxies and the materials of which they are made.-Contd.

CALENDAR

- NOVEMBER 3 and each successive Wednesday, **TELESCOPE MAKING CLASS** Prince George's County telescope making classes will be in session. Mr. Wm. Isherwood, teacher, phone AP 7-9419 for further details.
- 6 **TIME SCALES**, lecture by Father Francis J. Heyden, S.J. Director of Georgetown Univ. Observatory. 8:15 p.m. in the Department of Commerce Auditorium. Public invited. Short business meeting to follow.
- 5,12,19 **ADVANCED TELESCOPE MAKING CLASSES** with Hoy Walls, teacher, from 7 to 10 p.m. No charge for admission. Join now.
- BEGINNERS AND REGULAR TELESCOPE MAKING CLASSES** at Chevy Chase Community Center. Phone Mr. Hoy Walls for date.
- 13 **MD-DC JUNIORS** meeting in Silver Spring Library at 2 p.m.
- 21 **PRINCE GEORGE'S COUNTY JUNIORS** will meet at the home of Ted Noble at 2 p.m. Phone LU 2-6721 for details.
- 20 **MEMBER'S DISCUSSION GROUP**, topic: "SUNDIALS" some unusual designs. Bring some references. Commerce Dept. Room 2062, 8:15 p.m.
- VIRGINIA JUNIORS**: Phone Mr. Hudson for date.

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Library,
Naval Observatory
Washington 25, D.C.

SPEAKER-Continued from Page 1.

The lecturer will not promise to give any answer to the entire problem but will confine himself to outlining as far as possible the usefulness of all of the time scales that have been devised so far.

Francis Heyden has been Director of Georgetown Univ. Observatory since 1948 and has been a frequent guest of the NCA during his stay in Washington.

APPLYING FOR MEMBERSHIP

VOTE IN NOVEMBER

Regular Membership

Mrs. Virginia V. Ackerman
1715 Maydale Drive
Silver Spring, Maryland

Mr. Thomas B. McCaskill
6641 Wakefield Drive
#81
Alexandria, Virginia 22307

Joint Membership

David and Ruth E. Phillips
Route 1, Box 770
Accokeek, Maryland

Junior Membership

Ernie Lipman
7225 16th Avenue
Takoma Park 12, Maryland

Richard R. Rothman
8514 16th St. #309
Silver Spring, Maryland

Biography of NCA Secretary for year 1965-66:



Gertrude Dellar

Become better acquainted with the new Secretary of NCA. Mrs. Gertrude Dellar has served the National Capital Astronomers in many ways for many years, including serving the organization as treasurer in 1955-56. She has helped on committees, especially membership and hospitality committees. Mrs. Dellar graduated from Berry College and taught in the following States: Georgia, Florida, Michigan, and Virginia. She has taken post graduate work at Georgia Teacher's College, University of Virginia and G. W. Univ. Because of her efficiency and pleasant personality, she has been a wonderful asset to the Fairfax County Elementary School Library, where she is presently

employed. Trudy, as she is known to most of us, is a quiet, efficient and pleasant person to fill the office of NCA Secretary.

MRS. ERNEST EDEN MORRIS, SR. DIES

The Officers and Members of the National Capital Astronomers wish to express their sympathy to the family of Mrs. Ernest Eden Norris, Sr. Mrs. Norris, who died recently, was a life member of NCA. She had joined NCA in April of 1943. Her interest in astronomy had grown over many years and she found pleasure in the organization.

A REMINDER--PAY DUES

In order to complete the records, all dues should be paid now. The Membership Directory Committee needs this information in order to start work on the 1965-66 directory. Thanks for making this task easier.

Make your check or money order payable to: NATIONAL CAPITAL ASTRONOMERS
Send it to the treasurer: Mr. Frederick D. Cornelius
3101 - Chichester Lane
Fairfax, Virginia 22030

NEED TELESCOPE PARTS?

For sale: 6" reflector parts - 1/8 wave cave mirror. Edmund cell, 1/8 wave elliptical diagonal and spider, tube, rack, and pinion. Reason for sale - Going to college! Please contact DOUGLAS LIND, 345 Tuttle House, Station No. 2, University of Virginia, Charlottesville, Virginia.

OCTOBER LECTURE - COLOR ASTROPHOTOGRAPHY

Modern color films are manufactured for taking pictures of family, friends, and scenery stated our October speaker, Mr. George T. Keene of Eastman Kodak Co. Although color prints and transparencies create the illusion of reproducing the appearance of ordinary objects in color, they may often fail miserably in portraying astronomical objects for several reasons. First, stars are point sources whereas color films are designed for extended objects.

Secondly, celestial subjects are dim sources of light, and thus long exposures are required to register an image on film. However, photographic films suffer from what is called "reciprocity failure" during long exposures; that is, the intensity of the image recorded on the film is no longer proportional to the product of the light intensity and the exposure time when exposures are much longer than several seconds. Required exposures are longer than theoretically necessary, or, in other words, at long exposure times the film speed is effectively reduced. For example, the speeds of Kodachrome-X and Ektachrome-X (ASA 64 for snapshots) drop to ASA 12 and 5 respectively for 17-minute exposures, and High-speed Ektachrome is only slightly faster than Kodachrome-X for these exposure times. Furthermore, the three color emulsions tend to have different degrees of reciprocity failure which leads to a degrading of color balance at long exposures.

Finally, astronomical sources often are mixtures of monochromatic light rather than a broad spectrum of light as is reflected from ordinary color photography subjects. Color films respond to monochromatic light far differently than the retina of the eye. The Orion nebula appears bluish-green visually but photographs red because of a strong red hydrogen alpha line to which the eye under dim illumination is practically blind. The blue-green line of the nebula falls near the retina's maximum sensitivity but roughly between the maxima for the blue and green emulsions of most color films. Therefore, in viewing color pictures of the night sky one should take the colors he sees with a grain of salt. --Leith Holloway

A STAR IS BORN

Christopher Richard Stolarik, son of John and Ellen Stolarik, arrived Sept. 29, 1965. Mrs. Stolarik is presently a Trustee of NCA and the immediate Past President. "Papa John" is the Chairman of the NCA Education Committee. Congratulations, young Christopher, on choosing such a fine family of stars with which to take your place!