



ASTRONOMY AND PHILOSOPHY: OUR COSMIC DESTINY



Joseph Astron. J. photo

DR. ERNST J. ÖPIK

The distinguished astronomer, Dr. Ernst J. Öpik, visiting professor of astrophysics, University of Maryland, and research associate (on leave), Armagh Observatory, Northern Ireland, will speak at the June 2 meeting of NCA, giving some of his penetrating thoughts on the fascinating question of intelligent life elsewhere in the cosmos. Further, considering the characteristics of the universe, and the properties of atoms that have evolved organic systems, he will discuss the cosmic destiny of intelligent life.

Ernst Julius Öpik was born in Estonia in 1893. After graduation from High School there with honors and a gold medal, he entered the Moscow Imperial University, where in 1916 he was graduated with first class honors. He later became Head of the Astronomy Department of Turkestan University at Tashkent. In 1923 he received his Doctorate from Tartu University in Estonia. His thesis contained his well-known double-count statistical validation method. Between 1930 and 1934 he was research associate and visiting lecturer at Harvard University and Harvard College Observatory. He had returned to his native Estonia when his country was overrun by the Russians in World War II. With the one horse and cart from the small farm he had purchased, he and his family drove 100 miles to Tallinn and were evacuated to Germany, and to Hamburg Observatory. He was professor of astronomy at Baltic University until 1947, when he accepted the position of research associate at Armagh.

Through the years, Dr. Öpik's many hundreds of publications have conveyed a remarkable variety of substantial contributions throughout the field. His versatility extends from the sciences to philosophy, art, literature, and music; his scientific authority is recognized the world over in the history of astronomical progress. We are proud that Dr. Öpik is a long-time NCA member.

JUNE CALENDAR

- Friday, June 1, 8, 15, 22, 29, 7:30 PM — Telescope-making classes at American University, McKinley Hall basement. Information: Jerry Schnall, 362-8872.
- Saturday, June 2, 6:00 PM — Dinner with the speaker at Bish Thompson's Restaurant, 7935 Wisconsin Avenue, Bethesda. Reservations: Call Bob McCracken, 229-8321, by Thursday night, May 31. Limited seating.
- Saturday, June 2, 8:15 PM — NCA monthly meeting at the Department of Commerce Auditorium, 14th Street and Constitution Avenue, NW. Dr. Ernst Öpik will speak.
- Monday, June 6, 13, 20, 27, 7:30 PM — Telescope-making classes at Chevy Chase Community Center, Connecticut Avenue and McKinley Street, NW. Information: Jerry Schnall, 362-8872.
- Saturday, June 9, 9:00 AM — Astronomical League Mid-East Regional Convention at the Quality Inn Motel, York Road, Towson, Maryland, just inside the Baltimore Beltway. Among NCA Members there will be Wolfgang Schubert, who will discuss construction and use of a solar-prominence filter for telescopes. Information: April *Star Dust* or call Bob Wright.

NOTE ON CURRENT RESEARCH

The moon after Apollo 17 — Astronaut geologist Harrison Schmitt spoke to a standing-room-only audience in the Sheraton Park Hotel Ballroom at the April 16 session of the American Geophysical Union 54th meeting. He said it is now believed that (1) there is a density reversal in the lunar mantle, between the upper and lower crust levels; (2) moonquakes occur at depths between 600 and 1,000 Km; (3) the center of mass is displaced 2Km earthward; (4) the lunar temperature does increase with depth, but we don't know how hot the center is; (5) there is no general magnetic field.

Preliminary results from Apollo 17 indicate that the moon formed about 4.6 billion years ago (BY). Frequent meteorite impacts ended by 3.9 BY, and a general magnetic field was present between 3.9 and 3.2 BY. Volcanism ceased by 3.2 BY.

Dr. Schmitt showed lunar photographs made by the astronauts on which orange areas could be discerned. These are of three types: (1) orange-rayed craters, (2) cone craters with orange rims, (3) depressions having orange material on their walls.

It is curious that rocket exhaust raises light-colored soil on the moon, while walking there raises dark-colored material to the surface.

ELECTION RESULTS

At the annual meeting in May, the slate of officers chosen by the nominating committee was unanimously elected for 1973 - 74. They are,

Dr. John Eisele, President
Dr. Henning Leidecker, Vice President
Ms. Estelle Finkle, Secretary
Lawrence Torrance, Treasurer-Membership
Arthur Jarvis, Sergeant-at-Arms
Dr. James Krebs, Trustee

Trustees continuing in office are, Larry White, William Winkler, and Worth Crowley.

Members also voted unanimously for the slate of officers chosen by the Astronomical League nominating committee for the election to be held at the National Convention in August.

JERRY HUDSON JOINS NRAO

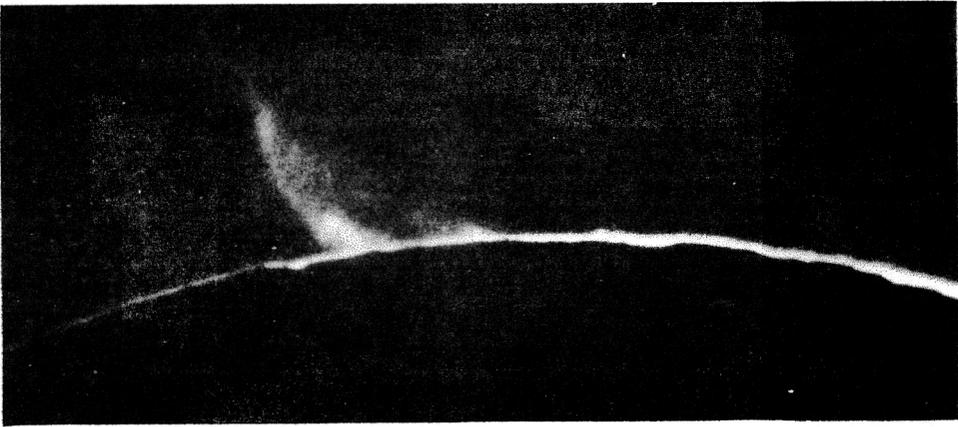
Long-time NCA member and former vice-president Jerry Hudson has joined the computer staff of the National Radio Astronomy Observatory Headquarters at Charlottesville, Virginia. The Hudsons' new address is Route 1, Box 11-E Keswick, Virginia 22947.

NCA WELCOMES NEW MEMBER

Mike Peyton
218 Currier Drive
Rockville, Maryland 20850

NCA SCIENCE FAIR AWARDS 1973

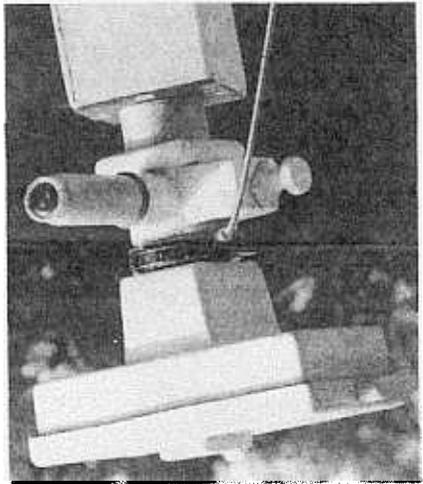
Prince Georges County
Joel Kastner (solar eclipses)
Kenneth Keene (constellations)



PHOTOGRAPHY OF SOLAR PROMINENCES

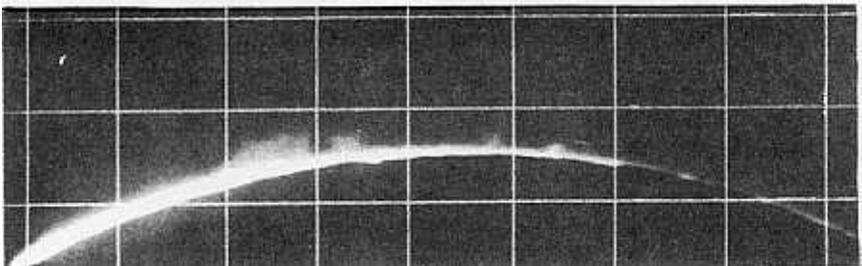
In April 1973 *Star Dust*, Wolfgang Schubert discussed his 3-Å H α interference filter attachment for viewing prominences with any astronomical telescope. Since then, Wolfgang has photographed them using a size 127-film camera made, like the filter attachment, of balsawood.

Schubert chose a camera using paper-backed film to avoid the much heavier transport mechanism of a 35-mm system. Shown in the photograph at right, his camera has a prismatic sighting eyepiece attached to the filter; when the solar image is exactly centered behind the occulting disk, the prism is slid out of the way. The image then passes through a Zeiss Ikon leaf shutter and a Barlow lens to focus a 46-mm diameter view of the solar limb on 127 Verichrome Par. A 5-second exposure is necessary, as ordinary film is rather insensitive to deep red light.



Wolfgang photographed the prominences at the top of the page on May 5, 1973, and the three groups of prominences shown below on April 15, 1973. A grid of squares 43,000 miles on a side is superimposed.

Wolfgang invites those wishing to observe H α prominences with his instrument to call him at 321-9617.



ABSTRACTS FROM THE IAU CIRCULARS

1. April 1 — Drs. G. and A. Vaucouleurs, University of Texas at Austin, noted a brightening of the nucleus of the Seyfert galaxy NGC 5548 in Bootes.
2. April 6 — Dr. F. Zwicky, Hale Observatories, discovered a supernova of magnitude 16.2 in an anonymous 16.4-magnitude galaxy in Virgo.
3. April 25 — John F. Huchra discovered a comet with the 122-cm Palomar Schmidt camera. Comet Huchra (1973h) is of magnitude 13 and becoming fainter, and is moving southwest in Bootes.
4. At last report Comet Kohoutek (1973f) was at magnitude 14.5. It is expected to reach magnitude 13.7 at the end of June. (See *May Star Dust*, p. 36.)

This listing courtesy Bob Bolster.

TREASURER'S ANNUAL REPORT

September 3, 1972 to April 30, 1973

Reconciliation of checking account and current funds:

	April 30, 1973	September 3, 1972	Increase
Checking account	\$1533.54	\$1152.12	
Petty cash	19.16	15.76	
Total	<u>\$1552.70</u>	<u>\$1167.88</u>	\$384.82
Bookledger balance:	\$1042.53	\$467.71	\$384.82
Summary:	Income	Outgo	Excess
	\$1887.16	\$1502.34	\$384.82

(Signed) Lawrence C. Torrance, Jr.
Treasurer

* S T A R D U S T *



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Star Dust production, William Winkler and Robert McCracken. Deadline: 15th of each month.