★ STAR DUST

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CAMERON TO SPEAK ON TRANSIENT LUNAR PHENOMENA

WINIFRED CAMERON

Mrs. Winifred Cameron, of the National Space Science Data Center, will speak on lunar transient phenomena (LTP) at the October 2 meeting of National Capital Astronomers.

The LTP program of the Association of Lunar and Planetary Observers (ALPO), begun in 1972, prescribes standard observations using Elger's method for estimating albedo and the extrafocal stellar diffraction disk for expressing seeing.

Each observer monitored assigned LTP, seismic epicenter, and comparison sites, and reported monthly. Reductions revealed several instances of albedo changes not noticed by the observers.

Born in Oak Park, Illinois, Mrs. Cameron received her B.E. degree from Northern Illinois University at Dekalb, and her M.A. from the University of Indiana at Bloomington. She has done graduate work at Georgetown and Maryland Universities. During her astronomical career, Mrs. Cameron has instructed at Mount Holyoke College, worked with the U. S. Naval Observatory, primarily on the Sun, and with NASA at Goddard Space Flight Center from 1959 to the present, where she has been concerned primarily with the evolution of surface features.

Mrs. Cameron was married to the late astronomer, Robert C. Cameron, who discovered asteroid 1575 and named it for his wife — Winifred. After his death she submitted his name for a lunar feature to the International Astronomical Union. Now the crater formerly known as Taruntius C is named Cameron.

Mrs. Cameron is the recipient of numerous awards and honors for her contributions and achievements.

OCTOBER CALENDAR

Friday, October 1, 8, 15, 22, 29, 7:30 PM — Telescope-making classes at American University, McKinley Hall basement. Information: Jerry Schnall, 362-8872.

Saturday, October 2, 6:15 PM — Dinner with the speaker at Bassin's Restaurant, 14th Street and Pennsylvania Avenue, NW. Reservations not necessary.

Saturday, October 2, 8:15 PM — NCA monthly meeting at the Department of Commerce Auditorium, 14th and E Streets, NW. Winifred Cameron speaks.

Monday, October 4, 11, 18, 25, 7:30 PM — Telescope-making classes at the Chevy Chase Community Center, Connecticut Avenue and McKinley Streets, NW. Information, Jerry Schnall, 362-8872.

Friday, October 22, 8-10 PM — Group observing at the NCA 5-inch Clark at the U. S. Naval Observatory. Information: Larry White, 978-9681.

Saturday, October 23, 4:00 PM — Second session of NCA equipment-use, astrophotography workshop and picnic. See page 6.

Saturday, October 23, 7:30 PM — *Exploring the Sky*, presented jointly by NCA and the National Park Service. Glover Road south of Military Road, NW, Near Rock Creek Nature Center. Information: Bob McCracken. 229-8321.

SEPTEMBER LECTURE

Deborah Warner, Curator of Astronomical History at the National Museum of History and Technology, Smithsonian Institution, spoke at the September meeting of National Capital Astronomers. She related the history of the development of star maps from antiquity to about 1800 AD.

From an extensive collection of maps she traced much of the evolution of the cultures of which they were products, and for which they were made. Among the motivations for mapping the sky were both practical uses, such as navigation and geography, and a reference system for locating planets and comets, and a desire to know the stars and express this knowledge in the contemporary arts.

The ancient Greeks and Romans used 48 constellations to cover all of the sky visible from the Mediterranean area. The only atlas extant from antiquity shows all 48. Ecliptic, rather than equatorial coordinates were used by the ancients. Ptolemy, circa 150 AD, constructed the first known catalog, in which he gave the magnitudes and positions of 1025 stars. For nearly 1500 years the Ptolemaic catalog was the major source of stellar information. The Danish astronomer, Tycho Brahe, provided the next systematic catalog about 1600 AD.

In Northern Africa, the Bedouins designed their own constellations including stars not in the Ptolemaic catalog. As early as the 7th Century, they depicted the Andromeda Galaxy (M31), which was not recorded in Europe until after the invention of the telescope. Our speaker showed a slide of the only known picture of the Bedouin constellations from an early 17th-Century woodcut.

Cartography and geography were unknown in Europe until the 15th-Century discovery of a geography book by Ptolemy. Printing also was invented in the 15th Century, which made possible great diffusion of maps and information leading to the popularization of astronomy.

During the next 300 years much new astronomical information and new techniques of map projection were developed. In the 15th and 16th Centuries Portuguese navigators saw southern stars invisible in Europe, and added many new constellations, giving them modern names. Star maps proliferated. Many publishers attempted, and some succeeded, in political ingratiation by renaming constellations for contemporary leaders.

Many of the rare maps which our speaker illustrated by slides reflected the cultural, political, and religious aspects of their times.

SECOND SESSION OF NCA WORKSHOP-PICNIC TO BE HELD

On Saturday, October 23, at 4:00 PM, a second session of the NCA equipment-use, observing, and astrophotography workshop will be held at Manassas Battlefield Park, at the same location as was the September session. Picnic: 4:00 PM, workshop, 6:00 PM, observing after dark. As before, the workshop and picnic will be held regardless of weather short of precipitation at the time. Go west on Route 66 approximately 17 miles from the Beltway to Route 234, right on 234 1.7 miles to the site on the left. Bring your picnic dinner, telescopes and other equipment, and your questions, whether or not you attended the first (September) session.

LEAGUE CONVENTION WELL ATTENDED, NCA AWARDED

At the Bicentennial Convention of the Astronomical League, held at Kutztown, State College, Kutztown, Pennsylvania August 19-22, National Capital Astronomers received the organization award for excellence of technical programs and telescope making. Record attendance was reported by Bob Wright, including 22 from NCA and several others from the Washington area.

SIMON WITNESSES SPACE SHUTTLE ROLL-OUT

NCA president Benson J. Simon was a member of the official Washington party of Congressmen, committee staff, and NASA executives at the Space Shuttle roll-out ceremony in Palmdale, California on September 17. He will share his experience with NCA at the October 2 meeting.

Benson J. Simon with the Space Shuttle Orbiter at the Palmdale roll-out

The DC-9-sized orbiter will provide economical transportation to and from orbit with the capability of carrying scientists and space laboratory equipment, deploying or retrieving and repairing satellites, and providing a pressurized environment for orbital laboratory work. Launched as a rocket, the shuttle will land as an airplane on designated runways in California and Florida.

Following the extensive testing program, the first orbital flights are to begin in 1979.

EARLY MARS VIKING ENTRY MEASUREMENT RESULTS

Preliminary reductions of entry experiment data, taken before the surface was reached, are partly summarized here. The retarding potential analyzer, activated shortly after deorbit, indicated the major constituent of the ionosphere to be O_2^+, nine times the abundance of CO_2^+. The upper-air mass spectrometer records molecular and isotopic abundances to mass 50, from 230 to 100 km shows main neutral constituent to be CO_2. Relative to CO_2, abundances are, N, 0,06; A, 0.015; O, 0.003. These are combined nascent and diatomic values.

The pressure profile, derived from stagnation pressure and deceleration, shows 10^{-4} mb at 90 km, 10^{-1} at 40, and 1 mb at 20 km. Subsequent surface measurements indicated about 7 mb.

Temperatures between 200 and 140 km averaged about 180 K; at 30 km, about 160 K; rising to about 240 K at the surface.

On the surface, Lander 2 gas chromatograph has now received its sample and should report data by September 27.

EXCERPTS FROM THE IAU CIRCULARS

1. August — Cowley, Crampton, Szkody, and Brownlee reported observing simultaneous radial velocity and brightness changes of AM Herc with a period of 186 minutes, which agrees with the X-ray variations. The primary eclipse of 0.7 magnitude lasts 40 minutes. The brief secondary eclipse is of 0.4 magnitude, and flickering of 0.1 to 0.3 magnitude was seen at all phases. The observations were made with the KPNO 400- and 91-cm telescopes.

2. September — J. D. Fernie, David Dunlap Observatory, reported that the B–V color indes of supergiant FG Sgi, which had been increasing by 0.16 magnitude per year for a decade, increased by only 0.3 magnitude in the past year.

This listing courtesy R. N. Bolster.

FIRST CLASS MAIL

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