



*Celestron 14...for NCA?*

## Proposes Purchase of 14-Inch Telescope for Society's Fifth Decade

Retiring President Benson Jay Simon has commissioned a study of the feasibility of purchasing a 14-inch Celestron telescope for NCA members' use. Responding to burgeoning member interest in observing and astrophotography, Simon appointed a committee to report to the trustees in September on all issues associated with financing and managing the use of an observatory-quality instrument. Citing greatly expanded membership participation in NCA obser-

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**AUGUST CALENDAR** — *The public is welcome.*

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

Friday, August 5, 12, 19, 26, 7:30 PM — Telescope-making classes at Chevy Chase Community Center, Connecticut Avenue and McKinley Street, NW. Information: Jerry Schnall, 382-8872.

Saturday, August 20, 8:30 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. Planetarium if cloudy. Information: Bob McCracken. 228-8321.

*Continued*

ving activities in the past two years, and the substantial investment that many members have recently been making in 8-inch and 5-inch instruments for home use, Simon notes a broad renewal of the enthusiasm for observing that existed through much of the forty-year history of the society. The commercial availability of quality, large-aperture portable telescopes at prices far lower than those of the ponderous instruments of a decade ago together with the recent flood of new knowledge about what we see happening when we observe changing planetary features and when we record images of brilliantly colored nebulae and faint galaxies, have been major factors in sparking the renewal of interest.

The 14-inch Celestron seems well suited to NCA's special needs: It can be transported to dark sites for individual or group use, can be taken to Rock Creek Park for our public observing programs, and can be used in our Naval Observatory facility for planetary, lunar, and solar work and other applications where ambient light levels are not critical. It would give members access to a finer telescope than the instruments we now possess individually, at a very modest cost per member.

We would probably have to raise only a little over \$3,000 to make the purchase possible, although a larger amount would be desirable to produce flexibility for future activity planning. NCA presently has a membership base of about 160 units, or a little over 200 people, including family memberships. The full cost could be raised entirely through one-time tax-deductible contributions of about \$20.00 per unit. Donations of \$100 to \$200 from 10 to 15 percent of our members would also cover most of the cost, and the trustees are hopeful that a number of members will be willing to make tax-deductible contributions of this magnitude. Fund-raising events and solicitations of tax-deductible grants from local businesses might also be used to defray the costs.

Clearly, *if* the members really *want* to own this instrument, it should not be difficult to raise the necessary funds. Furthermore, possession of the 14-inch Celestron would almost certainly result in a significant increase in NCA membership, thereby increasing our human and financial resources available for all future astronomical activities. The decision whether or not to purchase the telescope will have a substantial effect on the future of our society as it enters its fifth decade.

Members of the study committee are President James Trexler, Vice President Daniel Lewis, Treasurer Robert Lynn, and Bob McCracken. Please let them know how you feel about the purchase. A preliminary survey of your interest in contributing to the purchase will be included in the annual membership renewal questionnaire.

bjs

## JUNE LECTURE

Dr. Roger A. Bell, professor of astronomy at the University of Maryland, addressed the June meeting of National Capital Astronomers on the properties of cluster stars.

Dr. Bell pointed out that since globular clusters are the oldest objects in the galaxy, determination of their age would indicate the age of the galaxy.

Relative to hydrogen and helium, these stars show metal abundances of only about one percent of that of the Sun. Those having lower metal abundances are bluer. A plot of apparent magnitude versus color index, similar to the

## TREASURER'S ANNUAL REPORT

### INCOME

Dues	\$1,936.75
Obs Hdbks	126.00
Graphic TT	7.50
Tel Mkg Class	68.00
Total	<u>2,138.25</u>

### EXPENSES

Sky and Tel subs	989.50
Speakers' dinners	114.89
Star Dust prod, distr	546.21
Treasurer's suppl, pstg	84.00
Equipment rental	15.60
Dues (AL)	130.50
Obs Hbk, Graph TT, Dir	212.60
Insurance	52.00
Annual DC permit	1.00
Total	<u>2,167.30</u>

### CHECKING ACCOUNT

Balance 5/31/77	\$2,293.11
Checks outstanding	<u>293.97</u>
Cash position	1,999.14

### GAIN-LOSS

Income	2,138.25
Expenses	<u>2,167.30</u>
Net loss	(29.05)

### ASSETS ON HAND

Checks to be deposited	30.00
Stamps	<u>16.13</u>
Obs Hdbks (18)	46.13
Graphic TT (75)	

Robert M. Lynn, Treasurer

## INFLATION STRIKES AGAIN

As a result of increases in the costs of printing and mailing *Star Dust* and the NCA Directory, the costs of our monthly lecture program, and the increased per capita assessment levied upon us by the Astronomical League, the trustees have found it necessary to approve a \$2.00 dues increase for all classes of members. The new rates will be reflected in the renewal forms that will be mailed shortly.

Hertzsprung-Russell diagram, shows the main sequence and horizontal branch. The upper main sequence is depopulated as stars burn out, evolving to red giants, then to white dwarfs.

The University of Maryland has done computer simulations of the spectral lines to be expected in stellar atmospheres. For example, magnesium hydride lines for Mg isotopes of mass 24, 25, and 26 show abundance ratios on Earth of 8:1:1. The computer spectrum matched that of Arcturus, indicating a similar abundance ratio. The  $^{12}\text{C}$  to  $^{13}\text{C}$  ratios of Arcturus and the Sun differ, being 7:1 in Arcturus and 19:1 in the Sun.

The Omega Centauri cluster has six CH stars, detected by the presence of the G band; only one other CH star has been found among all other globular clusters. The color-magnitude diagram of the Omega Centauri cluster shows the red giants scattered about the horizontal branch rather than close to its center line; those above show relatively weak CN absorption lines, while those below have strong CN and Ba II lines. This indicates an excess of nitrogen, which may have resulted either from different starting material or from changes during ageing of the star, or it may indicate a return from the horizontal branch.

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EXCERPTS FROM THE IAU CIRCULARS

1. June 16 — Schwartz and Shao, Harvard College Observatory, recovered near-Apollo-type object 1960 UA on exposures taken with the 155-cm reflector at Agassiz Station. The object was only 0.03 day ahead of its predicted position.

2. July 8 — H. M. Taylor, Nautical Almanac Office, and D. Dunham, Computer Sciences Corp., predicted that an occultation of SAO 99401 by Pallas would be visible on this date from the eastern coast of Brazil?

3. August 26 — Shelus and Benedict, University of Texas, predict that Uranus will occult a star of magnitude 13.5-14 on this date. From Washington, occultation by the eastern side of the epsilon ring should occur at UT 1:49.4. Uranus sets before the western occultation.

This listing courtesy R. N. Bolster.

OCCULTATION EXPEDITIONS PLANNED

Dr. David Dunham is organizing observers for the following grazing lunar occultations in August. For further information, call Dave at 585-0980.

August	UT	Place	Vis Mag	Pent Sunlit	Cusp Angle	Min Aper
7	09:48	Bowie, MD	7.7	45	4N	2"
17*	00:09	Local total	0.4	05	88N	2"
21	01:06	Winfield, PA	7.4		5S	2"

\*Mercury egress. Duration 17 seconds.

\* S T A R D U S T  
 Published eleven times yearly for NATIONAL CAPITAL ASTRONOMERS, INCORPORATED, a non-profit, public-service organization promoting interest and education in astronomy and related sciences. President, James H. Trexler. Star Date: Robert H. McCracken, 5120 Newport Avenue, Washington, DC 20016. Deadline: 15th of preceding month.