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THE PRAIRIE ASTRONOMER

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New Theories Say Earth Has Worn "Death Shrouds"

Two theories involving catastrophes that enveloped the earth in sun-shading debris have been advanced to account for past episodes of extinction and climatic change.

One was a direct hit on Earth by an asteroid, causing an explosion whose debris cut off all or most sunlight for several years. This could explain the extinction of the dinosaurs 65 million years ago.

The other was a volcanic eruption on the moon, from which the debris remained in orbit around Earth, forming an equatorial ring like that of Saturn. Such a ring would have partially shaded Earth, chilling the climate radically. Part of the debris, in the form of solidified droplets of molten material, was spread around at least half the Earth, according to recently found evidence.

Many explanations have been proposed for the mass extinction that occurred at the end of the Cretaceous period, some 65 million years ago, including radiation from a nearby supernova, or stellar explosion.

Among those who favored the supernova hypothesis were Drs. Luis W. Alvarez and Walter Alvarez at the University of California in Berkeley. They have now proposed that the ex-

tinctions were caused by the impact of an asteroid about six miles in diameter. The resulting explosion would have filled the stratosphere with sufficient dust to cut off most sunlight for a few years.

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JUNE P.A.C. MEETING NOTICE

The June meeting of the Prairie Astronomy Club will be held at Hyde Observatory Tuesday evening, June 24 at 7:30 p.m. There will be a door prize for one of our paid-up full members: a handsome Hansen Planetarium Voyager Jupiter poster, courtesy of Jack Dunn.

Program will include an animated color movie satire of "Star Wars" called "Hardware Wars," which affords an excellent chance to compare film effects with "Empire"!

Moser Is Named "Amateur Of The Year"

Our congratulations to Earl Moser, long time Prairie Astronomy Club member, and one of the club's founders, for having been chosen as "Amateur Astronomer of the Year" at the Midwest Regional Astronomical League Convention. The convention was held earlier this month in Fayette, Missouri.

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PRESIDENT'S REPORT:

Twenty-five lucky club members and guests attended the premiere showing of the new Star Wars movie, "THE EMPIRE STRIKES BACK" on Tuesday evening, June 17. That's the number of tickets Lee Thomas managed to get to pass out free to members who attended our club's May meeting. Unfortunately, we had over 40 requests for tickets at the meeting. I must admit, a few of the faces at that meeting were unfamiliar to me--I wish we could get that kind of attendance at all of our meetings. We do occasionally give away unannounced door prizes to members at the meetings (note: we are announcing one this month) as an incentive to attend if the information, conversation, programs and friendship at the meetings aren't enough for you.

At any rate, I hope the members who did not get movie tickets were not too disappointed. There just were not enough to go around. (Of course, those many members who called me trying to get tickets were completely out of luck, since those who attended the meeting had priority). Lee distributed the available tickets by random drawing to those members who requested them this time, but in the future we may consider giving preference to the members who are most active in the club--sort of a "merit system." I feel that those who give their time and energy to the club's activities (working at the observatory, astronomy day, Lincolnfest, coming to meetings, serving as officers or activities chairmen, participating in programs, etc.) deserve to receive some special benefits back from the club.

I cannot sign off without giving a special word of thanks to Lee Thomas, KIMS Radio and the Stuart Theater for making the tickets available to our club. It's people like Lee and special events like the movie that make our club the enjoyable and unique organization that it is.

-- RON VEYS

P.S.: If you've seen "Star Wars", you won't want to miss this month's program... "HARDWARE WARS!!!"

THE PRAIRIE ASTRONOMER is published monthly by the Prairie Astronomy Club, and is free to club members. Yearly subscription without club membership is \$5.00. Regular membership (includes one - year subscription to Sky & Telescope, club newsletter, and four quarterly issues of the Astronomical League newsletter), is \$14.00. Family membership (includes all regular privileges, plus one additional vote in club elections) is \$16.00. Newsletter editor, Lee Thomas, 489-3855. Address all correspondence to PRAIRIE ASTRONOMY CLUB, INC., P.O. Box 80553, Lincoln, Nebraska 68501.

Mystery "Shrouds" Have Darkened Earth Sky, Caused Extinctions

(Continued from Page 1)

The scientists, with Frank Asaro and Helen V. Michel of the Lawrence Berkeley Laboratory, reported their hypothesis in the magazine *Science*.

Land plants and small animals would not have become extinct, as indicated by the fossil record, since seeds and roots could have survived a few years without sunlight. Sea plants would have perished, as well as large animals dependent on plant food. Smaller animals could have lived on insects and decaying vegetations.

The evidence cited for an asteroid impact is an abnormal abundance of iridium in sedimentary rocks laid down at that time. Iridium is far more abundant in meteorites (and presumably asteroids) than in Earth rocks.

The encirclement of the Earth by volcanic debris from the moon has been proposed by Dr. John A. O'Keefe of the National Aeronautics and Space Administration's flight center in Greenbelt, Md.

O'Keefe has specialized in the study of the glassy fragments known as tektites that have fallen on the Earth at various times in the past.

In a recent issue of the British magazine *Nature*, he pointed out that three catastrophes affected Earth about 34 million years ago: a large part of its surface was bombarded by at least a billion tons of tektites, winter temperatures in the northern latitudes plunged and five abundant

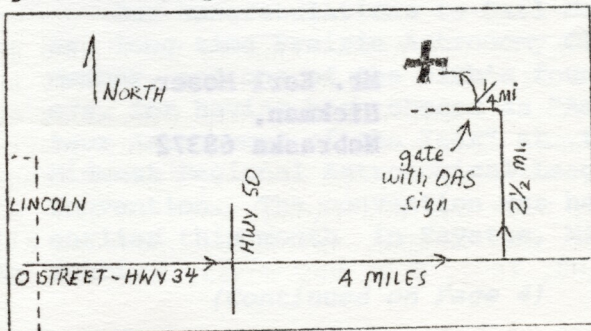
ocean-dwelling species became extinct.

The explanation, O'Keefe believes, was a lunar volcanic eruption that placed about 25 billion tons of volcanic debris in orbit around Earth. Roughly a billion tons of it fell through the atmosphere. The rest, within about a year, formed a ring extending 4,000 to 12,000 miles above the Equator. In the northern winter, when the sun is over the Southern hemisphere, such a ring would shadow high latitudes in the Northern Hemisphere.

Let's Try It--One More Time!

The last two times the Omaha Astronomical Society has invited us to their dark sky observing site for a star party we have been thoroughly rained out. So, they're trying it again.

The Prairie Astronomy Club has been invited to join the OAS at their site (see map) on Saturday, July 12, for a combination picnic-star party beginning about 5:00 p.m. Bring your own picnic supper and, of course, your telescope.



MOSER GIVEN AMATEUR AWARD*(Continued from Page 1)*

Earl was chosen by an awards committee from a list of nominees, all of whom have been extremely active in promoting astronomy in this region through the years. He will receive a framed certificate.

Of the twelve winners of this award since it was established in 1967, three now have been from Nebraska. Earl is the first member of our club to win the award.

TRANSPORTATION TO DALLAS AVAILABLE

George Allen, President of the Omaha Astronomical Society, will be driving a 9-passenger van to the Astronomical League Convention in Dallas, July 3-6. He still has room for

two more riders and would be more than happy to take along anyone interested. Your share of the gas expenses would be approximately \$45. Call George for details at (Omaha) 333-1097.

NEXT MIDSTATES TO BE IN NEBRASKA

Next year's Midwest Region convention of the Astronomical League will be held in Nebraska. The location has not yet been decided (Lincoln, Fremont and Omaha are all possibilities). The convention is scheduled for early June, 1981.

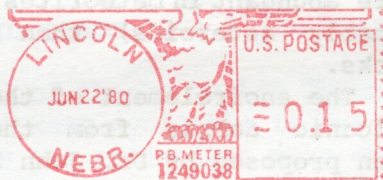
Convention Chairman is George Allen of the OAS, and Vice Chairman is Earl Moser of PAC. The Omaha and Lincoln clubs are joint sponsors.

THE PRAIRIE ASTRONOMER

c/o Prairie Astronomy Club, Inc.

P.O. Box 80553

Lincoln, Nebraska 68501

**FIRST CLASS MAIL**

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Mr. Earl Moser
Hickman,
Nebraska 68372