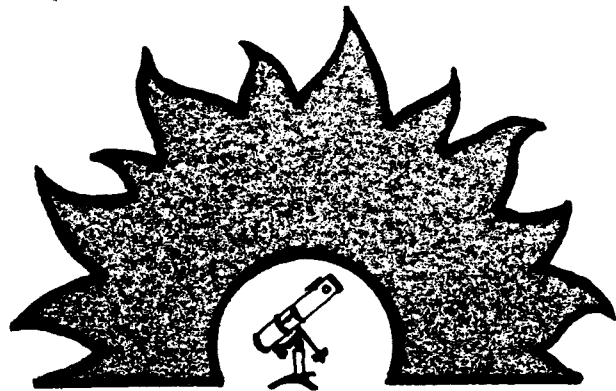




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PASTIMES

P H O E N I X A S T R O N O M I C A L S O C I E T Y -- F O U N D E D 1 9 4 8

DECEMBER MEETING DECEMBER MEETING DECEMBER MEETING DECEMBER MEETING

Our December meeting will be highlighted by two of our very own club members. **Richard Lines** will talk to us about two very interesting stars: **T Corona Borealis** (an intermittent nova) and **D H Cephei** (an extremely massive binary that may prove to be a test for relativity). Then, **Keith Parizek** will explain why certain parts of the moon have never been mapped before and how new Earth-based technology is performing this mapping without the help of lunar probes.

As usual, our meeting will take place at Phoenix College, Room C-102 (see map on back of newsletter) on Friday, December 19, 1986 at 8:00 p.m.

"ACTING SECRETARY" REPORTS

Well, now that all the "hard work" of sending in subscription dues to **Sky & Telescope** is almost completed, surely I can find a volunteer for Secretary/Treasurer to tend to the minor record keeping that remains. Don't be fooled by the "secretary" part of the Secretary/Treasurer title -- there's very little, if any, typing involved. I'll be fielding phone calls from volunteers at 254-4057.

Our November meeting was well attended as TV celebrity **Louis Boyd** spoke to us about his Automatic Photoelectric Telescope Service project up on Mt. Hopkins. A few nights ago Lou attained celebrity status in a nice TV news piece on Channel 10. We're proud to have had him first! Thanks, Lou!

Raul Espinoza rounded out the evening by sharing more of his astro slides. We'd like to encourage more of our members to come forth with their work as Raul did.

ASTROBRIEFS

Dim Sun. The Solar Maximum Mission satellite has found that the sun has dimmed 1/1000th since 1980. This activity seems to be related to the 11-year cycle of sunspot activity. The finding that the sun dims as sunspots disappear contradicts previous belief



Voyager 2. Neptune's atmosphere & electrical particles could endanger Voyager 2's instruments and photographic abilities during the planned flyby August 1989. A change in course has been suggested, adding more distance from the planet. Observations of Neptune would then be made from 3,000 miles rather than 800. Triton would be photographed from within 24, 000 miles and not 5,000. Since collision with debris within the rings is a possibility the route may be altered further.....

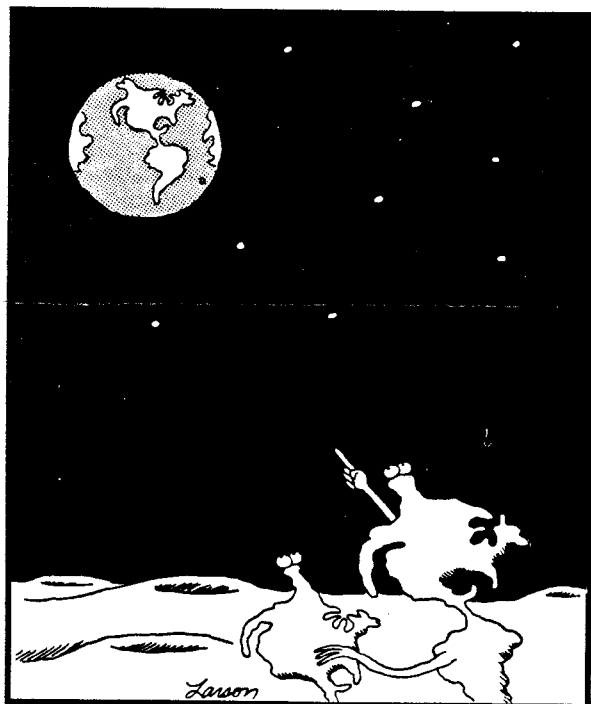
Notes -- continued

Be sure to attend our December meeting -- not only for the fine speakers we have lined up, but to help us plan a club star party for the 1st of the year. And by the way, this is the last call for club dues renewals. Please use the form on page 3.

-- Bill Krist

SAD NOTE

We are saddened to report that 20 year member Harry Simmons passed away last month at the age of 87.



"And, if you squint your eyes just right, you can see the zork in the earth."

Briefs -- continued

Fill 'er Up. Cometlike ice balls vaporizing upon entering our atmosphere could be responsible for keeping our oceans full. Noted Iowa physicist, Louis Frank, has measured 20 such "comets" per minute entering the Earth's atmosphere. If this has been constant for the past 4 billion years then this activity may be the origin of oceans. Such a theory is controversial, of course. Fred Whipple, patriarch of cometary science, says these observations have merit but disputes the interpretation. True comets have so much dust that radar would be continuously reacting and dramatic fireballs would be filling the sky. These objects are not true comets but are composed of almost pure water. Critics are left with no alternative explanations for Dr. Frank's data.....

Space Station. NASA, planning an orbiting space station by 1994, is considering designs for crews of up to 8 people. Two engineering teams are competing for the contract to be let next August. The Martin Marietta team have unveiled a 43-foot long model run by 18 interlocked computers with a caretaker system named George. George oversees equipment, warns and advises giving crew members time for science experiments and manufacturing activities. Each compartment (walk-in closet size) has a sleeping bag attached to a wall, storage, television, personal computer and video recorder for entertainment. The galley has a microwave oven for the frozen food. Meals will be on a table before a picture window with a view of Earth. Showers need to be vacuumed since there is no gravity for draining. The model cost \$4.2 million and if chosen will be

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sed to train and perfect the project at Huntsville. The competing team of engineers is led by Boeing Aerospace.....

Stream Along With Us. Our galaxy and thousands of other celestial bodies are traveling across space, streaming at more than 400 miles per second according to a theory developed by seven American & British astronomers, affectionately called "The Seven Samurai". Two of the Americans work in Arizona, David Burstein (ASU) and Roger Davies (Kitt). This theory that the universe is expanding evenly means that the "streaming" motion is caused by a gravitational pull of some huge, undiscovered mass beyond the range of astronomers' vision. Look for some heated discussion on the "streaming theory" next month at the astrophysics conference in Chicago.....

Tide Alert. Perigee & Syzygy will celebrate New Year's Eve from sea to shining sea this year giving us the highest tide of the decade (about 7½ feet). If El Niño joins the party then things will get rowdy. Perigee is the

point when the moon in its irregular orbit is closest to Earth. Syzygy refers to the near-alignment of the sun, moon and Earth. Each by itself increases gravity which is responsible for the up-and-down motion of waves called tide. Dramatic events only occur if the sea level is also raised by a storm or other phenomena such as an El Niño (a major warming of water and winds in the tropical Pacific). Then it's wise to prepare for flooding....

Fossil in Space. Over a period of 125,000 years until about 25,000 years ago, R Corona Borealis, a supergiant star, gradually cast off its outer layer forming a shell 114 trillion miles across. Nicknamed "R Cor" this dwindling dim blue dwarf or late-star, is in a calm area of the Milky Way so that its haze of debris has remained undisturbed, a fossil in space. This cosmic cloud poses many riddles: For example -- What is the energy source that brightens the silicate & carbon grains within the cloud? Not the star. Where is the the hydrogen? Even "R Cor" doesn't have any hydrogen. This is the most abundant element in the universe. Stars are thought to need it to ignite their nuclear furnaces.

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