☆ STAR DUST

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SOME THINGS TO PUT INTO AN ASTRONOMY COURSE

DR. HENNING LEIDECKER

Professor Henning Leidecker will address the National Capital Astronomers December 2, 1972 on survey courses in astronomy. He has been developing a one semester course at the American University for several years. Its present version is successful, was reported at the American Astronomical Society meeting last August, and is now being duplicated at a number of schools.

The present explosive renaissance of astronomy on campuses everywhere is due partly to the wealth of new astronomical information (pulsars, quasars...), partly to the space program (moon landings, close-ups of Mars...), and, significantly, to astrology. Astronomy courses which served everyone well four years ago are not regarded as completely satisfactory by many people taking them today. Surveys of reasons for enrolling list:

Cosmology — What is the universe like and what is our place in it, what objects fill it, how are these arranged, has Ryle seen the edge, ...

Is there intelligent life out there — Has science advanced far enough to make responsible guesses, the Condon report on UFO's, Ponnamperuma's finding of amino acids on a newly-arrived meteorite, ...

Naked-eye observations — The more prominent stars and constellations, where are the planets, meteor showers, ...

Astrology — What does it profess to say, why have some of the most prominent astronomers of the past associated with it, what is the modern evidence concerning it, ...

These honest questions must be answered. To ignore them is to acquiesce to answers other than ours. Along with the continuing need for traditional texts is the need today to address directly the above issues.

Henning Leidecker received his doctorate in physics from the Catholic University of America in 1968 with a disertation on dielectric behaviors of linear polymers. He has worked at Bell Telephone Laboratories at Murray Hill on liquid crystals, and consults at NIH on the thermal physics of blood-artery interfaces. He has professed physics at the American University since 1967.

DECEMBER CALENDAR

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

Saturday, December 2, 6:15 PM — Dinner with the speaker at Bassin's Restaurant, 14th Street and Pennsylvania Avenue, NW. No reservations needed.

Saturday, December 2, 8:15 PM — NCA monthly meeting at the Department of Commerce Auditorium, 14th and E Streets, NW. Dr. Henning Leidecker will speak.

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

NCA NOVEMBER LECTURE

Dr. Carol Jo Crannell of the physics faculty of Federal City College spoke about the development of detectors for high-energy cosmic rays at the November 4 meeting.

Natural cosmic rays, discovered early in this century, are thought to come to earth almost entirely from within the Milky Way Galaxy. Since the discovery of positrons in a cosmic-ray cloud chamber, most new subatomic particles have been discovered by means of cosmic-ray research. Observations now are done from high-altitude balloons as large as 26 million cubic feet in volume, lifting three tons of instruments. Principal among these are scintillation and Cerenkov detectors and spark chambers. High-energy physicists seek the particle composition, direction, and energy of near-earth primary cosmic rays. The first and third are obtained relatively easily; the second is virtually impossible due to earth and sun magnetic fields. Much more detailed information on the direction and origin distribution of cosmic rays should come from the 5-ton satellite, HEAO-A, a joint United States and German spacecraft to be launched in 1976.

The question period following the lecture continued as a delightful informal discussion after the speaker sat down. The frequency of husband-and-wife teams in the natural sciences, one of which Dr. Crannell is a member, was observed to be due to a "high coupling constant."

DID YOU KNOW THAT...

November 11, 1972 is the 400th anniversary of Tycho Brahe's first observation of the supernova of 1572. Since then, the only bright supernova to occur in the Milky Way was that of 1604. About 14 possible Milky Way supernovas have been detected with radiotelescopes.

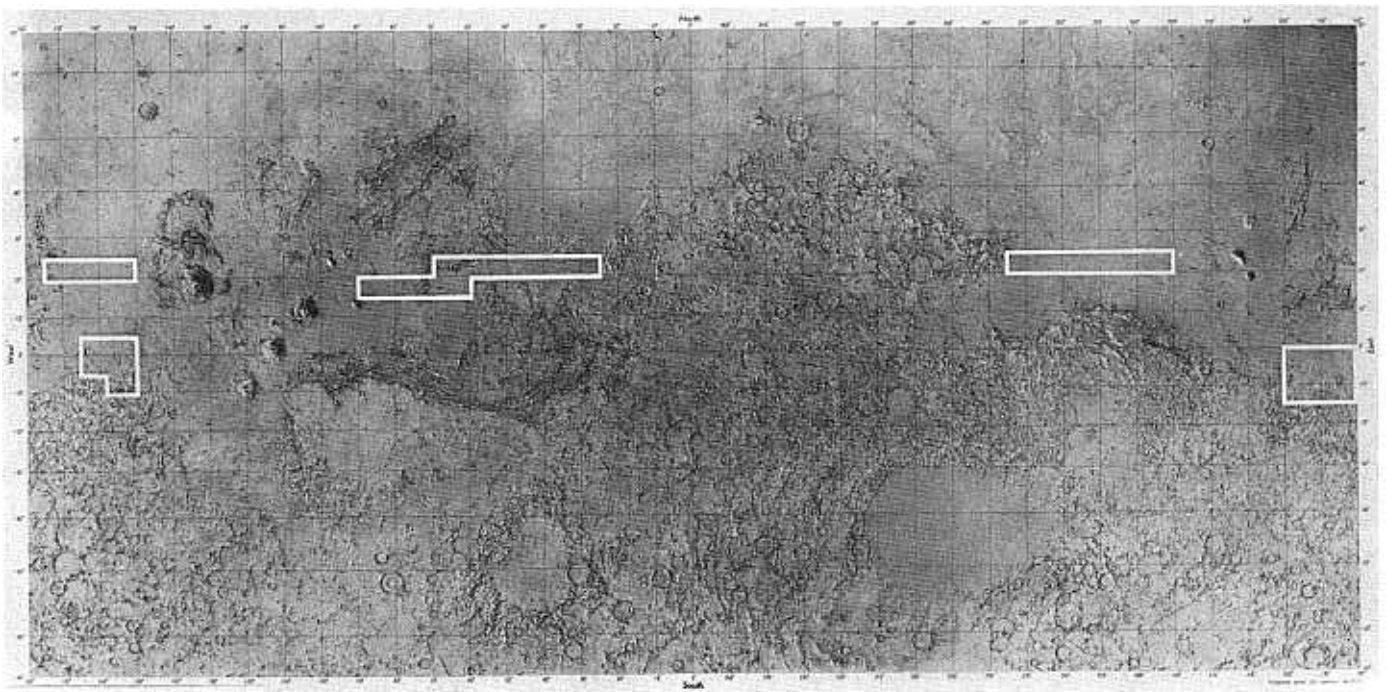
Nature, October 23, 1972, is entirely devoted to studies of the large X-ray source X-3 in Cygnus, which began a series of spectacular X-ray outbursts in September of this year. The search for a corresponding visual object is still underway, and the new Orbiting Astronomical Observatory, *Copernicus*, is providing valuable data. *Hayden Planetarium News*

MARS LANDING AREAS STUDIED

The five regions indicated on the accompanying map of Mars are being studied as candidate landing areas for NASA's 1975-76 unmanned Viking expedition. The regions of interest were selected within 25 degrees north and south of the planet's equator in order to provide direct communication with the earth and the proper sun angle for site certification from photographs at the time of landing. All are fairly smooth areas near scientifically interesting geological features and are in the planet's lower elevations where the best probability of water and relatively high temperature may offer a possibility of finding some evidence of life.

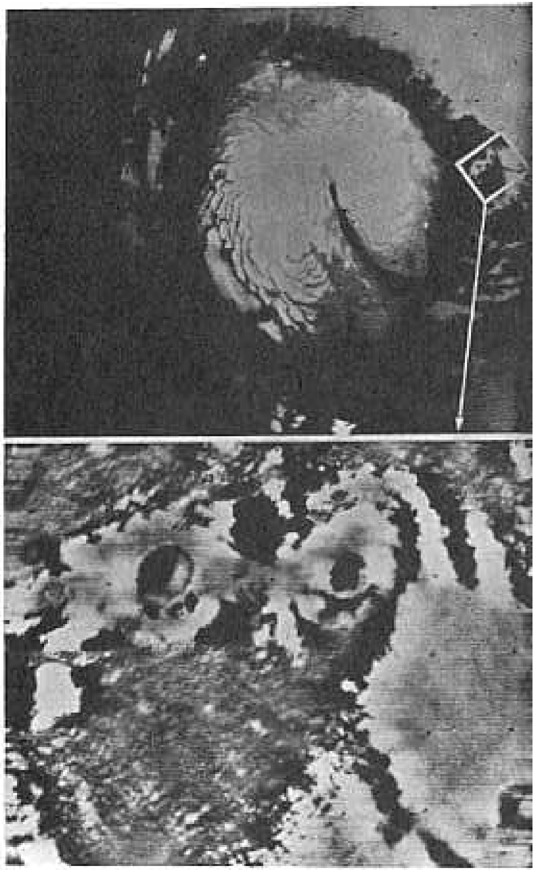
PICTURES OF THE MONTH

Looking down on the north pole of Mars, Mariner 9 took the pictures on page 16 on October 12, 1972. On the right is shown the polar cap at its minimum extent — about 1,000 kilometers across. The curved patterns in the interior of the frost cover are formed on outward-facing slopes, which receive more direct sunlight than the flat areas and defrost earlier. The various shades of gray correspond to surfaces of very bright carbon dioxide and, perhaps, water ice, and bright and dark rock debris. On the left is a high-resolution picture of the inscribed area of about 150 by 200 kilometers. Photos courtesy Dick Horwitz.



Candidate Mars Landi

NASA photo courtesy Dick Horwi



Arctic Mars

IASA photos

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