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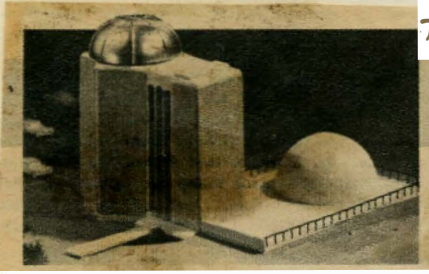

THE RITTER PLANETARIUM AND OBSERVATORY

by

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On the campus of the University of Toledo will be located a major facility devoted to education and research in astronomy. The Ritter Planetarium and Observatory will be unique in this area and we expect it will become a center of public interest in addition to its role in education.

The planetarium and observatory will face Bancroft Street in line with the University Library and will stand about where the Cheltenham Road entrance to the campus is now.

The planetarium section of the structure will consist of a 54 foot x 87 foot building topped by a 40 foot dome onto which the sky can be projected. Not only can the stars be shown on this dome but elements of the Solar System, the moon, its phases and features, the five naked eye planets, and the artificial satellites.

The planetarium makes possible teaching space sciences in a controlled environment eliminating the uncertainties of the weather. The sky can be presented as it appears at any time of day or night for any time in the past or future and from any point on the earth. Motions of the earth and other celestial bodies can be accelerated—time can be compressed—to make possible understanding of cosmic events that otherwise can never be observed. The educational role of the planetarium is adaptable to various age levels from the elementary school child to the college student. Also, there are plans to schedule planetarium showings for the general public increasing their knowledge and appreciation of the science of astronomy.

The projector will be a Spitz Model A-3-P designed and built by Splitz Laboratories in Yorklyn, Delaware. It will have the newly developed prime sky feature providing a rich star field with tiny brilliant star images. This is achieved using xenon arc lamps as the light source. Spaced around the dome will be a speaker system with which the lecturer can produce stereophonic sound to enhance the visual illusions of a planetarium show. The projector is designed to display the stars in either the Northern or Southern hemisphere and either the northern or southern skies in front of the observer. This will permit theater type seating and the use of the projection chamber as a classroom or lecture hall. The chamber will seat 175 persons.

Surrounding the auditorium and on the planetarium level of the observatory tower will be space for exhibits related to astronomy. These exhibits are frequently murals painted on black canvas which under ultraviolet light glow, giving an impression of a view into space or may be display cases containing models—an orrery is an example—illustrating astronomical principles or a showing of antique observational instruments.

Space is also provided for a sales counter where photographs of celestial objects, star charts, and books on astronomy may be purchased.

The observatory section of the building will have a 24 foot diameter dome surmounting a six-story tower. A dome of this dimension provides ample space when groups of school children and the public visit the observatory. The dome is to be electrically driven for rotation and the shutter door electrically operated for opening and closing. The telescope mounts on a concrete pier free of the rest of the building and buried some 70 feet below the surface to minimize vibration in the telescope.

Faculty offices and a large laboratory will be located in the tower. The laboratory area is directly below the observatory providing easy access for placement of recording devices to accessories attached to the telescope. A darkroom will also be part of this laboratory area.

The proposed telescope is a 16 inch diameter Cassegrain instrument. The mount is an equatorial off-axis type designed for maximum rigidity with ample space behind the primary mirror to accommodate accessories to the telescope. Probably accessories are a photoelectric photometer and a spectograph. A photometer is an instrument for measuring stellar brightness—the knowledge of which yields clues to the temperatures and distances of stars. A spectograph is a device with which the spectrum of a light source can be photographed. From the study of stellar spectra much can be learned about a star including its chemical composition, its temperature, how fast it is moving toward or away from the sun, its rate of rotation, or if a magnetic field is associated with it. The study of the spectrum of a planet that has an atmosphere gives evidence of the chemical composition of that atmosphere. A precision instrument of this type can be successfully used for research activities in many areas of astronomy.

The Ritter Planetarium and Observatory is scheduled to open in the Fall of 1965.

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