

# New Observatory

by  
Dr. J. O. Hassler

THE Astronomy Department's long cherished dream of a new observatory has come true. Completed just before the opening of the first semester of the present school year, the sixteen-foot dome is located atop the gun shed in the military science area—the southernmost building on the campus. One purpose in locating the observatory at such a distance from the center of the campus is to get as far away as possible from the lights of the other buildings.

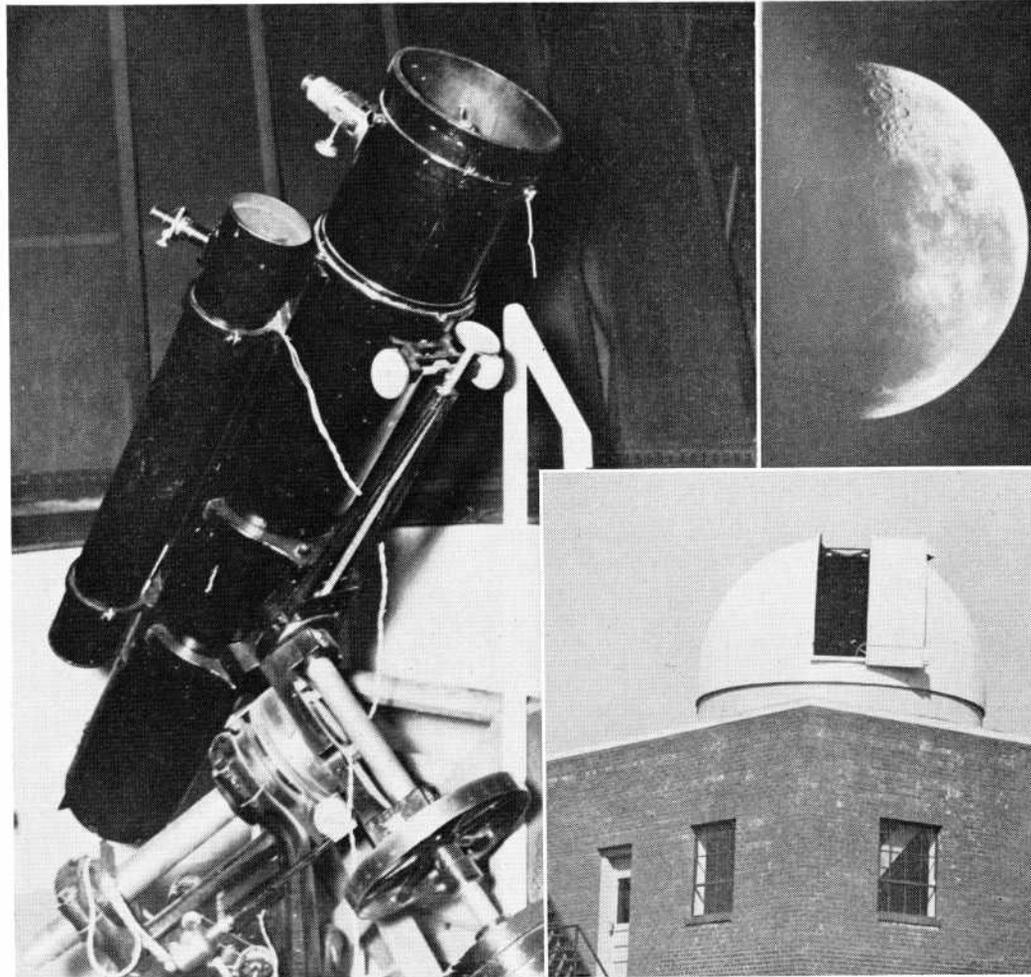
Many an alumnus reading this article will recall climbing five flights of stairs to reach the roof of the Administration Building, or standing in a queue of curious, expectant students on the Oval to take his turn in looking through the portable three and one-half inch telescope at the moon—or some planet.

Now the visitors enter the dome and look into the eyepiece of a ten-inch reflecting telescope that will show stars one four-thousandth as bright as the faintest star visible to the unaided eye. More than twenty million stars are thus made visible, whereas only about six thousand can be seen without the aid of a telescope.

The new telescope is driven by a synchronous motor timed to make the instrument rotate about an axis parallel to the axis of the earth. Once pointed toward a star the telescope will follow the star across the sky.

It is also equipped for celestial photography. In the chart room below is a set of photographic charts of the sky—the Franklin-Adams charts. If on any plate there appears to be a strange object, the photograph immediately can be compared with the corresponding region on the chart to test the possible discovery of a new comet or a new star. On the same floor with the chart room is the dark room fully equipped for developing photographic plates, making slides, and printing pictures.

Besides the ten-inch and three and one-half inch telescopes, the department, through the kindness of H. O. Eaton, professor of



*The University's new telescope, an outside view of the observatory and a view of the moon photographed through the new instrument.*

philosophy, is permitted to use his six-inch refracting telescope. This instrument for more than ten years has been the chief instrument used by the department in research. There is also a small astronomical transit used by classes in practical astronomy to determine longitude or correct the time. A student-made spectroscope makes it possible to show the spectrum of the sun.

The equipment is to be used for two purposes. Classes in the elementary courses of astronomy have the privilege of using the telescopes to see things to illustrate the subject matter in their courses. A minor program of research carried on by the staff and the advanced students of the department calls for the use of the instrument most of the time when the sky is clear. The chief line of work at present is with variable stars. A variable is a star that because of some physical change in its constitution changes the output of its radiation from time to time. One of the stars under observation for the last four years has been seen to be about four hundred times as bright at one time as at another.

A great deal of astronomical research today is devoted to the study of these variables. The help that is given by the meager equipment at the University of Oklahoma cannot compare with that done at major

observatories but it is significant nevertheless and is being published in national journals. The solution of the problem of changes in radiation among the stars has its bearing on the study of our sun, whose change in radiation is fortunately trivial. We hope that it remains trivial, for no one of us wishes for the day that our sun might shine four hundred times as bright as it does now.

The Department of Astronomy offers two courses in beginning astronomy for sophomore and junior students besides several advanced courses. Only one of the two has any subject matter prerequisites—contrary to the general belief that one must know mathematics to study astronomy. The more elementary course of the two is designed particularly for non-science majors and could be taken by any university student. It aims to teach students how to interpret the ordinary celestial phenomena that they see around them every year of their lives—phenomena about which the average person knows so little.

The other courses have mathematical prerequisites and range through courses in practical observatory methods designed to train students who are particularly interested in going further in astronomy, up to a major graduate course (principally mathematical) in celestial mechanics.