

and installed in Munich, several others have been put into operation in other cities in Germany.

The planetarium is placed in a hemispherical dome, white inside and without pillars or posts. The optical projection apparatus is a kind of glorified and animated stereopticon which throws on the inside of the dome images of the sun, moon, all the planets which are visible to the naked eye, and the 4,500 fixed stars that are visible to the naked eye, and also the Milky Way. These projected images move as the real bodies appear to move in the sky, with the time accelerated due to rotation of parts of the central apparatus, which is so accurately made that it takes care of the precession of the equinoxes. The erratic motions of the planets are clearly and satisfactorily shown. The realistic appearance of the fixed stars, including the Milky Way and the illusion of the immensity of space are perfect. One feels that he is in the great outdoors under a clear night sky. By means of a special set of projectors, the names of the constellations can be shown in the sky and with an electric flashlight with an arrow-shaped light the lecturer can point out any star, planet or other body in the sky.

A more complete description of the Carl Zeiss projection planetarium may be found in an illustrated article on the subject by the writer in the July-August, 1926, number of *Natural History*.

On account of lack of time, the remarks on popular astronomy in America were limited to a description of the proposed Hall of Astronomy which has been projected for the American Museum of Natural History in New York City.

The Astronomy Hall is to be located in the exact center of the system of exhibition buildings,—“the celestial hub, so to speak, from which all the halls containing terrestrial exhibits will radiate. Natural History must begin with astronomy, the earth being but one of the heavenly bodies, and a somewhat insignificant one at that.”

The building is to be octagonally-shaped with a diameter of 126 feet and a height of five stories, surmounted by a dome. A more complete description of this building and its equipment will be found in an illustrated article entitled “An Ideal Astronomic Hall,” by Howard Russell Butler, who was adviser to the architects, published in the July-August, 1926, number of *Natural History*.

THE ORBITS OF TWO A-TYPE SPECTROSCOPIC BINARIES.

BY W. E. HARPER.

These two stars afford marked contrasts in several particulars. The star H. R. 4750, type A3, has numerous sharp lines for measurement, whilst Boss 5579, type A0, has only a few wide lines, principally the hydrogen series and the calcium K-line. The first star shows only the one set of spectrum lines; in the second both component spectra of nearly equal intensity are recorded. In this latter case the hydrogen