

PALOMAR

ASTROPHYSIC'S 200-INCH TELESCOPE

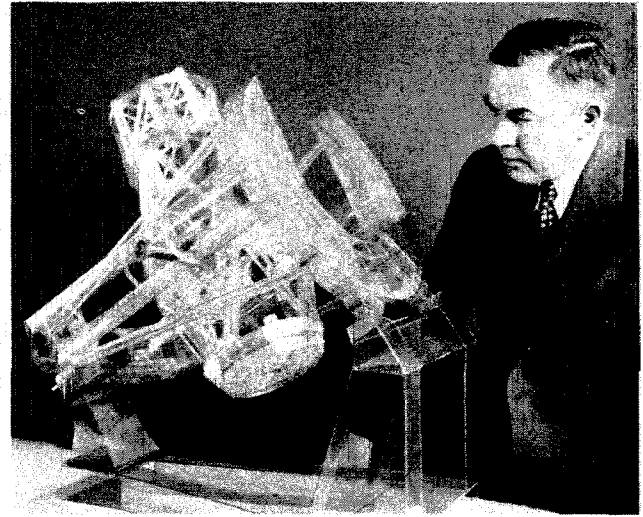
Every Caltech alumnus is undoubtedly familiar with the general phases of the 200-inch telescope project but probably few know many of the interesting details that are too "technical" for the general public. In this issue of the ALUMNI REVIEW there is presented a series of articles dealing with some of these details in a manner which it is hoped will show the vastness of the work and the multiplicity of the problems which are being encountered.

Many will remember the time, about five years ago, when the building activity for the Astrophysics department was almost as great as the present construction that has disturbed the west end of the campus. Three buildings were completed within a short period. These were the Astrophysics building, the Optical Shop and the Instrument Shop. By now, of course, all three look as much a part of the campus as Bridge or Gates.

The Astrophysics building is at present housing a number of chemists and probably some geologists in the depths of its numerous basements. The astronomers occupy the top floor. The Instrument Shop is equipped to handle all but the heaviest work on the telescope. It contains some beautiful equipment and some expert mechanics, so whenever one of the other departments wants some really nice work done they send over their best salesman to try to convince the star-gazers that their job is more important than the telescope. The Optical Shop is busy with its big job, but in addition a number of smaller mirrors are being ground.

The Astrophysics Department is headed by an Observatory Council whose members are: G. E. Hale, Max Mason, W. S. Adams, R. A. Millikan and the late Henry M. Robinson. Dr. J. A. Anderson acts as its Executive Officer, in direct charge of design and construction. The engineering end of the job is under the supervision of Captain C. S. McDowell, U. S. N. In addition there is an advisory committee consisting of scientists from the Mount Wilson Observatory as well as from Caltech. This combination of Mount Wilson talent with that of the California Institute is an interesting feature of the 200-inch telescope development. There always has been close co-operation between the two groups and the new project extends this in a more formal way. The Palomar Observatory is not going to be a competitor of Mount Wilson but is going to supplement the work of the older observatory with its larger instrument and newer equipment.

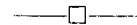
The two men chiefly concerned with the building of the Palomar observatory, with whom Alumni should be better acquainted, are Dr. Anderson and Captain McDowell. Dr. John A. Anderson has been an astronomer since the early years of the twentieth century. He was associated with Johns Hopkins University from 1908 to 1916. At that time he joined the Mount Wilson staff. He has been connected with the Institute since 1928. His astronomical interests have been mainly in the field of spectroscopy and



Captain C. S. McDowell and Celluloid Model of 200-inch Telescope

the construction of gratings. He has been an editor of the Journal of the Optical Society. In addition to his astronomical work he has been interested in seismology, and, with Harry O. Wood of the seismo lab, designed a seismometer which has been widely used. At present he is still connected with the seismological laboratory in the San Rafael Hills.

Captain McDowell, U. S. N., has worked with the Navy's engineering problems for many years. During the War he was in command at the Naval Experiment Station at New London, Connecticut, and was executive secretary of the U. S. Anti-submarine Board. Recently he has held positions such as: New Construction Superintendent, N. Y. Navy Yard; Manager, Pearl Harbor Navy Yard; Inspector of Machinery, N. Y. Ship-building Corp. Tech is fortunate indeed to have a man of his experience in charge of its biggest construction job.



THE MIRROR

William H. Pickering, '32

In 1934 the first large slab of glass was received in the Optical Shop. This was a Pyrex disc 120 inches in diameter to be made optically flat and to be used for testing the large mirror. The grinding machine was ready and at the present time this disc is practically in its finished condition. The 200-inch disc was received with a great fanfare in 1936 and in a short time grinding commenced. The first job was to smooth off the back of the glass to prepare it for its permanent mounting on a large iron disc. At present this part has been finished and work has commenced on the front face, and indeed there is already a noticeable cavity