

BOOKS

PALOMAR

The World's Largest Telescope

By Helen Wright.

The Macmillan Co., New York \$3.75

HELEN WRIGHT's book is a popular history of the origin and development of the 200-inch Hale telescope—and a good one. Though it's a small book (188 pages) it covers a lot of ground, starting with Galileo and the first astronomical telescope, and working up to George Ellery Hale and the greatest of all telescopes.

After a historical introduction on telescopes, Miss Wright settles down to the story of the 200-inch from the time when Hale first conceived it in 1928, through the negotiations with the Rockefeller Foundation which resulted in a \$6,000,000 grant to build it, the selection of Palomar Mountain as the site for it, the construction of the observatory, the casting of the mirror at the Corning Glass Works, the building of the mounting at the Westinghouse Elec-

tric and Manufacturing Company, and the dedication of the telescope on June 3, 1948.

Helen Wright is an astronomer herself (she's been associated with the Vassar College Astronomy Department, the U. S. Naval Observatory, Mount Wilson Observatory and the Maria Mitchell Observatory) and she is author of a biography of Maria Mitchell, America's first woman astronomer. For the past three years she has been working, under a Carnegie Foundation grant, on what is to be the official biography of George Ellery Hale. *Palomar* is a detour from this long-range project.

Naturally, then, this book is strong on detail from the years when Hale was alive (he died in 1938). Material on the final construction, tests and recent observations made with the 200-inch telescope is confined to a few pages in the book—though that doesn't keep it from being a first-rate introduction to the Palomar Observatory.

Recent Faculty Publications

THOMAS POWNALL

By John A. Schutz, Assistant Professor of History

The Arthur H. Clark Co., Glendale, Calif.

\$10.00

A BIOGRAPHY of the British defender of American liberties who served as Governor of Massachusetts from 1757 to 1760—and an incisive study of Anglo-American relations in the eighteenth century.

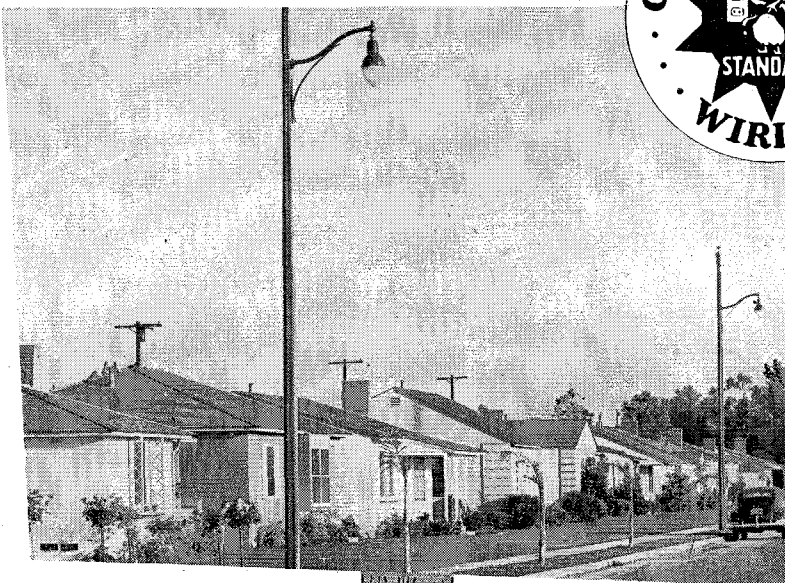
PRINCIPLES OF PLANT PHYSIOLOGY

By James Bonner, Professor of Biology, and Arthur W. Galston, Associate Professor of Biology

W. H. Freeman & Company, San Francisco

\$5.50

A TEXTBOOK for undergraduate students, at the second or third year level, who have had a course in general chemistry and general biology or botany.



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Plant physiology is a subdiscipline of botany concerned with the functioning, or physiology, of plants. Closely related fields include plant morphology (structure of plants), plant ecology (interactions with the environment), phytochemistry (biochemistry of plants), cell biology, genetics, biophysics and molecular biology. Fundamental processes such as photosynthesis, respiration, plant nutrition, plant hormone functions, tropisms, nastic movements, photoperiodism, photomorphogenesis, circadian Principles of plant physiology. Item Preview. remove-circle. Share or Embed This Item. EMBED. Principles of plant physiology. by. Bonner, James Frederick, 1910-. Publication date. 1952. Topics. Plant physiology. Publisher. San Francisco, W. H. Freeman. Plant Pathogens & Principles of Plant Pathology. 1951-57 -E. A. Ga¹4mann was one of the first to investigate the physiology of the wilts caused by *Fusarium* spp. He put forth the involvement of toxin (toxin theory) in wilt diseases. 1952 -N.F. Jensen suggested blending of different resistant genotypes of similar agronomic characters in fields of oats to reduce the spread of rust and losses from rust. 1953 -N. E. Borlaug and associates developed multiline cultivars for wheat. 1953 " Pontecorvo and his associates demonstrated parasexualism in fungi. 1956 -J. G. Horsfall published a book entitl Access study documents, get answers to your study questions, and connect with real tutors for PLS 360 : Principles of Plant Physiology at University Of Arizona. Principles of Plant Physiology Questions & Answers. Principles of Plant Physiology Documents. All (36). Assessments.

It was not too long, however, until Italian astronomer Galileo heard about the invention that through use of correctly-positioned lenses, allowed people to see things a long way away. The tools used in the manufacturing of the first refracting telescope were all Galileo needed to know and within 24 hours he had developed a better one. In fact, the process of improvements Galileo made on Lippershey's telescope was quite dramatic. Whereas the original version had a magnification of 3, the new telescope had a magnification of around 30. Galileo achieved these extraordinary results by figuring out that instead of using a single mirror, telescopes are being designed with many smaller mirrors aligned to collect and focus the light as if they were a single mirror. These are called segmented mirrors.

Resolving Power. If you mark two black dots close together on a piece of paper and look at them from the other side of the room, your eye may see them as a single dot. Likewise, stars that lie close together or markings on planets may not be distinguishable.

The large telescopes and the associated equipment astronomers use are extremely expensive. Therefore the largest telescopes are often national or international facilities. The largest optical telescopes in the U.S. at this time are the twin 10 meters Keck telescopes; these telescopes pioneered the use of segmented mirrors.

9 Understatement I was somewhat taken aback (very surprised) He was a little shocked (very shocked)

Writing task : An Article Question You have seen the following question in a computer magazine: INTERNET - THE GOOD AND BAD What difference has the internet made to your life? Can you imagine life without email and the world wide web? Write in giving your views on what you like - and hate - about being online, and we will publish the best articles.

Model answer People often wonder how they ever managed without the internet and this is a sentiment that I cannot help but agree with. My personal interest in using the PC to do tasks other than word-processing began about 8 years ago when I attended a lecture on the internet as an information-gathering and communication tool.

tric and Manufacturing Company, and the dedication of the telescope on June 3, 1948. Helen Wright is an astronomer herself (she's been associated with the Vassar College Astronomy Department, the U. S. Naval Observatory, Mount Wilson Observatory and the Maria Mitchell Observatory) and she is author of a biography of Maria Mitchell, America's first woman astronomer. For the past three years she has been working, under a Carnegie Foundation grant, on what is to be the official biography of George Ellery Hale. Palomar is a detour from this long-range project.

Naturally Astronomers began their high-tech for the extraterrestrial life. They also comb the looking for flashes of laser. Space stations and human spacecraft in orbit are also satellites. A few large satellites have been launched in parts and assembled in orbit.

The astronomer tells the industrialist that he has been in contact with space aliens who want to open up their world to interstellar trade. Their world needs help. During the year 1866, ships of several nations spot a mysterious space monster, which some suggest to be a giant narwhal. Spiral galaxies get their name for the alternating bands of bright starry and dark dusty gas swirls that pinwheel off of a bright, central core. Planets are generally divided into two main types: large low-density giant planets, and smaller rocky terrestrials.