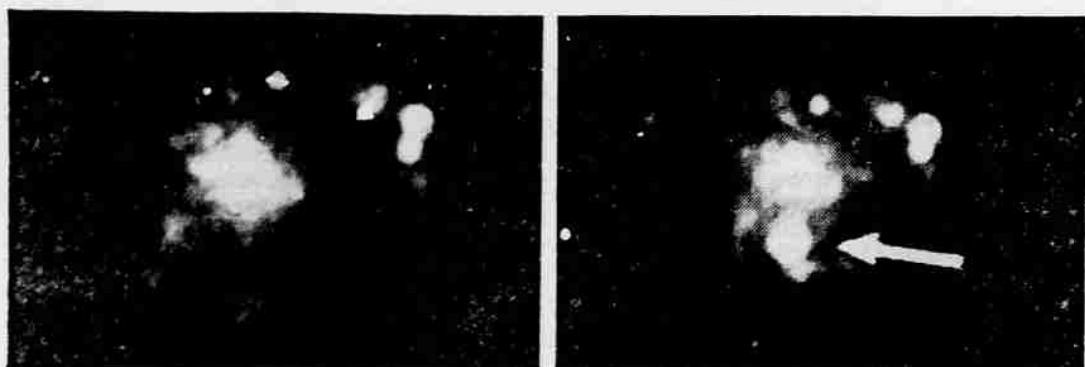
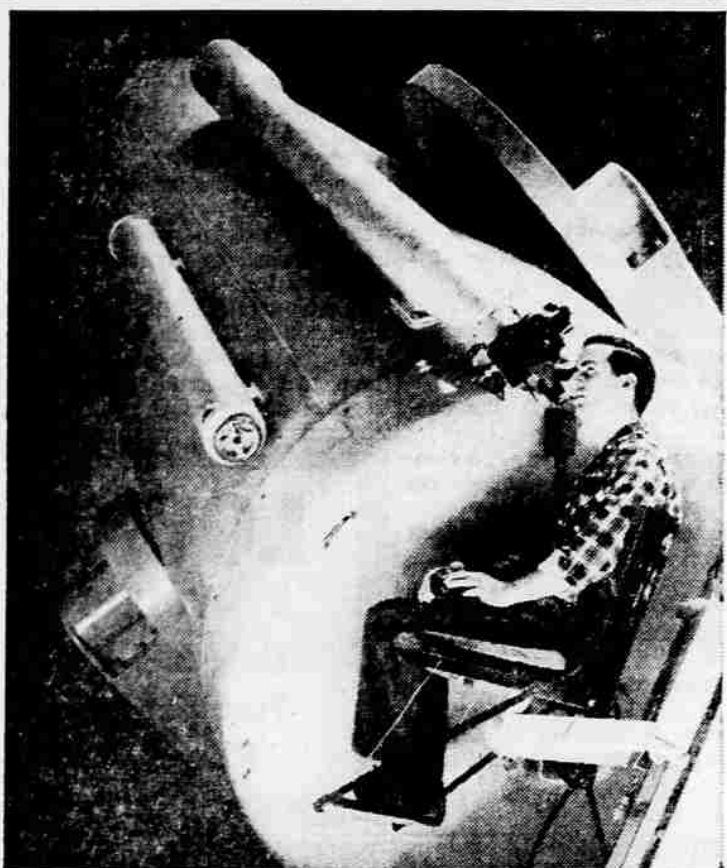




Astronomer George Abell (right) guides Big Schmidt telescope at Palomar Observatory that after seven years' work has mapped the heavens out to 600 million light years. Above, an exploding star or nova caught by the Sky Survey flares in space, releasing some 10 septillion times as much energy as a hydrogen bomb.

The atlas of the heavens, a joint project of the National Geographic Society and the California Institute of Technology, will be furnished to astronomers and observatories around the world, President John Oliver La Gorce of the Society has announced.



(Photos Copyright National Geographic Society)

Redlands Sawmill Destroyed by Fire

Oregon City—(U.P.)—Fire destroyed the Hamilton Brothers sawmill at nearby Redlands, Ore., last night. Cause was not determined immediately. Trucks and crews from the Clackamas county fire department fought the blaze for several hours. Redlands is about six miles east of here.

Portland Machinists Accept Wage Boost

Portland — (U.P.)—Machinists at the Screw Machine Products Company here have voted to accept wage increases offered by the company and the plant is expected to reopen within three days. George Salmon, business representative for the union, said pickets were removed from the plant. The strike was called four weeks ago. The agreement calls for a 5-cent hourly wage hike for machinists and a 4-cent raise for production workers. The firm also acceded to union demands for an insurance committee for employees. The contract would be in effect until June, 1957.

Sourdough Association Reunited at Eureka

Eureka, Calif. — (U.P.) — The 24th annual reunion of the International Sourdough association met here yesterday to commemorate the 59th anniversary of the Alaskan gold rush.

The San Francisco - Oakland Sourdough club is host to the convention, which is dedicated to the late Skiffington S. Mitchell of Eureka, one of the original goldseekers from California. Delegates from the Western United States, Canada and Alaska are attending.

LOGICAL

Grand Rapids, Mich. — (U.P.) — Juvenile officials, questioning two eight-year-old girls who ransacked four rooms in their elementary school, asked why they hadn't entered their own classroom. "Well," one of the girls replied, "we thought if Miss VanDaalen (their teacher) found out about it, she'd scold us."

First Section of Giant Universe Atlas Being Prepared at Palomar Observatory

Washington—The first section of a giant atlas of the universe, farthest-reaching map ever attempted, is being published from Palomar Observatory after almost seven years' work.

Observatories around the world are being sent the first 200 photo sky charts, revealing millions of new stars, galaxies, and systems of galaxies far out in space.

The total atlas, expected to help solve many mysteries of the universe, will comprise 1,758 photomaps when finished in 1956. Price per copy, covering only printing costs, is \$2,000. Nearly 100 have been ordered.

Sky Survey

The National Geographic Society-Palomar Observatory Sky Survey, begun in 1949, has mapped three-quarters of the sky—all that can be seen from Palomar—out to an unprecedented depth in space of 600 million light years. One light year is about six million million miles.

Many of the space regions photographed in detail by Palomar's 48-inch Big Schmidt telescope have never been seen before by astronomers. Now an over-all picture of the universe has been provided to distances beyond range of all but the largest telescopes.

"We regard the completion of the Sky Atlas as a mapping milestone," said Dr. John Oliver La Gorce, president of the National Geographic Society. "It will yield inestimable advances in astronomical knowledge."

"I am persuaded that it will stand for many decades as a monument to mankind's quest about the unknown and perhaps the unknowable," Dr. Ira S. Bowen, director of Mount Wilson and Palomar Observatories, said.

Voyage in Space

The atlas offers new clues to the size of the universe, how it is made up, how old it is.

New celestial bodies—comets, asteroids, stars, and island galaxies like the Milky Way—have been found. The skies have been carefully photographed for all objects down to a brightness only one-millionth that of the faintest star the naked eye can see on a dark moonless night.

From the Sky Survey, astronomers will more clearly determine the shape of the Milky Way, earth's home galaxy. It is now regarded as a great flat wheel of stars, slowly spinning in space, with "arms" of stars, gas, and dust spiraling off its rim like a Fourth-of-July pinwheel.

Far beyond in outer space there are galaxies similar to the Milky Way. Sometimes they group into clusters. Whereas only a scant three dozen such clusters were known before the Sky Survey, now more than a thousand have been found. They may point to a new general law of nature governing the organization of matter in the universe.

Temperature, color, and brilliance of distant stars will be better known because the Sky

Survey has photographed each section of the sky twice, once in blue light and again in red light. More may thus be learned about the "novae" and "supernovae," stars that suddenly explode into millions of times the sun's brightness and burn themselves out quickly.

In contrast, dark clouds of gas and dust in space, first seen clearly on Sky Survey plates, may show stars in process of being born.

Guide for a Century

Years of study by astronomers will bring many discoveries. Dr. Lee DuBridge, president of the California Institute of Technology, predicts the new atlas will be "an astronomical bible for 100 years."

Work with other telescopes, such as Palomar's 200-inch Hale, will use the Sky Survey as a guide. This is the primary purpose of the atlas, to be a treasure chart showing astronomers where to dig for discoveries.

By analysis of light from the distant clusters of galaxies discovered on the Survey's photomaps, for example, more evidence already is being obtained on the intriguing question of whether the entire universe is expanding, with objects racing outward like fragments from a bomb.

Dr. V. M. Slipher of the Lowell Observatory and the late Dr. Edwin P. Hubble of Mount Wilson and Palomar found three decades ago that this apparent recession obeyed a simple law—speed seemed to increase in direct proportion to distance. To test the law, galaxies farther and farther away must be measured.

Dr. Milton L. Humason, working from Sky Survey plates, has found clusters of galaxies receding at about 38,000 miles per second—a fifth the speed of light itself.

Mysteries Yet Unsolved

Ages of the stars, and of the universe itself, will someday be better understood because of the new atlas. Already differing "populations" of stars have been recognized and studied by Dr. Walter Baade at Palomar.

Is the universe of uniform structure? Did it have a definite beginning in space and time? Does it have an end, or does it extend outward endlessly? Could the sun itself ever blaze out as a nova, burning the planets of the solar system to cinders in a few seconds?

Such are the questions astronomers look to the Sky Atlas to help answer.

The 48-inch Sky Survey camera, the Big Schmidt, maps a section of sky as broad as the bowl of the Big Dipper on each photographic plate. The 200-inch Hale, although it "sees" about three times as far, only encompasses a field one-quarter the area of the full moon. The 200-inch would have taken 10,000 years to map the entire heavens; it would have been somewhat like charting the ocean bottom by lowering weighted lines.

Universe on Tennis Court

Each plate of the sky atlas is 14 inches square. Laid out together, the whole map would be the size of a tennis court.

Priceless original plates are now locked three floors underground in Pasadena. A duplicate

set is safely buried beneath the huge dome of the Hale telescope at Palomar. Copies being mailed out, to institutions that ordered the atlas before a deadline last October, are negative prints on double-weight photographic paper.

Stars and other bodies in the heavens show as dark spots against a light background. Astronomers find it easier to measure the brightness of objects on such charts.

The National Geographic Society has borne the costs of materials as well as astronomers' salaries, while observing time for the Sky Survey was provided by Palomar observatory.

General supervision of the historic project has been carried out by an advisory committee consisting of Dr. DuBridge and Dr. Bowen representing the California Institute of Technology, and Dr. La Gorce and Dr. Lyman J. Briggs, director emeritus of the National Bureau of Standards, representing the National Geographic Society.

Gold Hill Slates Sale of Property

Gold Hill—The city council voted recently to sell three lots to the highest bidder submitting a bid over \$250. The lots are located on Sixth ave. across from the city hall. The Gold Hill planning commission recommended the minimum price.

The council also awarded a contract to Hughes and Dodd company of Medford for an oil mat on Sixth ave. between eighth and 11th sts. at 60 cents per square yard.

Specifications are being prepared by the city recorder, Ferd W. Jones, and the street department for paving Fourth st. between Gail's Market and Walker's Signal station. The council authorized drawing of specifications for either asphaltic concrete or straight concrete totaling about 868 square yards.

No action was taken on a request from Postmaster H. D. "Bud" Force for a no parking zone in front of the Gold Hill post office between 6:30 and 7:30 a.m. and 7:30 to 8:30 p.m. Force requested the no parking zone to assure parking facilities for the new mail truck on its line between Portland and Ashland.

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