

# Earth Passes Unscathed Through the Tail of Halley's Comet

## EPOCHAL EVENT IN THE SCIENCE OF ASTRONOMY

### Valuable Knowledge Secured by Observations Of Comet's Transit Across the Blazing Face of the Sun

## NO UNUSUAL PHENOMENA NOTED

about 18,000,000 miles, provided the tail was pointing directly opposite the sun. However, there are strong reasons for believing that the tail is lagging behind the line directly opposite the sun, and that instead of being but 2,000,000 miles from us at the nearest point, it was, perhaps, twice this distance or more.

The tail at a point 14,000,000 miles out from the head was very much narrower than was expected, and the explanation probably lies in the lagging of the tail, thus increasing its distance from us. As indicated in our bulletins of the preceding days, this lagging has been anticipated.

Up to 8:30 Pacific standard time, Wednesday evening, no trace of the comet's tail or related phenomena have been visible. It is probable that the earth at that hour had not yet entered the tail. Even if it had, the presence of the moon would probably prevent observations of sky illumination due to the tail.

Lick Observatory, May 18, 1910.

### YERKES OBSERVATORY

**TAKES PHOTOGRAPHS**

YERKES OBSERVATORY, WILLIAMS BAY, Wis., May 18.—As the world passed through the tail of Halley's comet astronomers at the Yerkes observatory tonight secured photographs and accurate records of meteoric phenomena and varying heavenly illumination under atmospheric conditions nearly perfect for work with camera and telescope.

Although a spectacular display of aurora lights, which reached across the sky from east to west, was observed here, Professor Frost, in charge of the observatory, and Professor Mitchell of New York do not connect the phenomena directly with the comet.

"While the glow of the comet's tail is readily discernible," said Professor Frost shortly before midnight, "we have observed little striking positive phenomena that could be attributed to Halley's comet. But the glow does not lessen the value of negative observations secured."

The pictures and data are considered of unusual value and may develop scientific information and theories of unexpected importance.

Prof. Edward E. Barnard, one of the world's greatest authorities on comets, was much pleased with the result of the observations which he had secured almost without interruption for 48 hours.

A most painstaking search was made through the tail of the comet for spots where illumination might be lacking. This lack of illumination, it was indicated, may aid greatly in determining the substance of the glow that follows the comet's head.

"The passing of the comet," said Professor Barnard, "will greatly enrich science. I consider the negative phenomena observed tonight of as great value to science as positive phenomena."

According to first computations from observations made here, the earth entered the million mile broad tail of the comet at a speed of slightly more than 46 miles per second. At this juncture the eminent scientists gathered here agreed that the passage would occupy a period of little more than five hours.

Sixteen cameras, especially constructed for photographing the sky, and 14 pictures were taken from this point on the passage of the comet. Pains-taking care was exercised in the arrangement and use of the instruments to assure complete and accurate data and pictures.

Although they had slept little on the previous night and were busy all day with cameras and telescopes, the astronomers spared not a moment for sleep tonight.

The party at the observatory included the following scientists:

Prof. S. A. Mitchell, Columbia university, New York; Prof. Edwin B. Frost, Prof. Sherburne W. Burnham, Prof. Edward A. Barnard, Prof. John A. Parkhurst, Prof. Storrs R. Barrett, Prof. Frederick Slocum, Oliver J. Lee and Mary L. Calvert.

The battery of cameras covered every visible foot of sky, and hundreds of plates were fixed. A number of the cameras were fixed on axes, revolving with extreme slowness with lenses constantly on the comet's glowing tail.

Although moonlight was a slight handicap, the brilliantly clear sky and favorable atmospheric conditions made up for it. The photographs secured are considered invaluable. With the particular object of photographing meteors, Professors Parkhurst and Barrett took charge of the Carnegie outdoor photographic observatory, where a number of pictures were taken.

Unusual displays of aurora lights at 8:30 o'clock tonight are said by Professor Mitchell of New York, who is here to observe the passage of Halley's comet, to be the direct result of the

comet. This was the most important observation obtained so far.

**CATCHING TAIL OF COMET IN BOTTLES**

NEW YORK, May 18.—From the four great bridges across the East river, from the decks of ferry boats, from pier ends and wharves, from the islands in the harbor, from roof tops and for entire length of Riverside drive the people of Manhattan swarmed and clustered tonight to peer into the west for the incandescent tail of the receding comet. Some prayed and all watched.

Nobody carried salt, but a few carried bottles in which to seal up the atmosphere for future analysis. What these analyses will show can not be foretold, but there were no bodily indications of cyanogen gas.

Word received from the west late today that violent disturbances had been observed on the face of the sun added greatly to the curiosity of the crowd, who reasoned that if the sun was susceptible there was cause to believe that the earth might be.

Laymen were not wanting who argued that the showers of the morning and afternoon were attributable to the presence of comet dust in the air.

The sky was overcast for the greater part of the day and no observations of the sun were possible. But even if they had been, the fact remains that the greatest university center of the country is without a first class telescope.

**REJOICING SUPPLANTS TERROR OF MEXICANS**

EL PASO, Tex., May 18.—Hundreds of Mexicans from the villages along the Mexican border gathered about crosses erected on the hills tonight, awaiting the appearance of the fiery comet, they believe is hurrying to destroy the earth.

For 10 days the superstitious Mexicans have sought to avert the impending catastrophe with music, incantations and weird ceremonies, and many have spent day and night in prayer.

Hundreds have sought refuge in caves and canyons in the mountains.

As the hours passed without catastrophe, gloom gave way to joy, and dancing and feasting replaced the religious ceremonies. The Indians also shared the great fear of the Mexicans.

**Comet Promotes Piety**

STANFORD, Ky., May 18.—Scores of negroes professed salvation at all night services held in their churches here last night to prepare themselves for whatever may happen when the earth passes through the comet's tail. Fields are practically denuded of farm hands, for negroes have refused to work and are fleeing to town.

**NEGATIVE RESULTS AT CARNEGIE OBSERVATORY**

PASADENA, May 18.—According to the computations of George E. Hale and his assistants at Carnegie observatory, Halley's comet passed on beyond the sun at 8:25 o'clock tonight, and at the same time the earth was in the midst of the wanderer's tenuous tail. But not one of the delicate instruments set to detect suspected phenomenon showed the slightest variation.

**ANNOUNCES DISCOVERY OF ORIGIN OF COMETS**

MARE ISLAND, May 18.—Just as the earth was entering the tail of Halley's comet today, Professor T. J. See, astronomer in charge of the naval observatory at Mare Island, announced that as the outcome of years of research in cosmical evolution he had discovered the origin of comets, which, he said, were some of the primitive masses once forming the solar nebula and could be popularly described as immature, undeveloped planets.

Every nebula, he said, is filled with millions of these small masses in addition to the gases shown by the spectroscopist. He further said:

In the course of researches made at Mare Island during the last two years I have proved that comets are really survivals of the outer shell of ancient nebulae from which our system was developed. Most comets are now found to move in elliptic orbits, and the fact

that they return to us after long intervals shows that they belong to the same family and are relics of the outer parts of the spiral nebula from which our system originated.

All the inner parts of the nebula have been cleared away in producing sun, planets and satellites, but many small masses still survive in the outer shell of old nebulae. These are the comets. Hence they move in long ellipses and it was formerly supposed that their orbits are nearly all parabolic. But this is a mistake. It is now known that the orbits are usually elliptic, though the periods are very long.

**OBSERVATIONS MADE WITH AID OF BALLOON**

ST. LOUIS, May 18.—Professor George O. James, astronomer at Washington university, accompanied by John Berry, a veteran pilot, ascended in the balloon St. Louis III, at 6:30 o'clock tonight to make observations during the transit of Halley's comet across the face of the sun.

The purpose of the expedition is to determine if possible, what effect the passage of the earth through a comet's tail has on atmospheric conditions and to observe possible meteoric showers.

The balloon took a northeasterly course in a light breeze and soon was out of sight.

In the basket of the balloon, Professor James has provided an aneroid barometer, a sensitive thermometer and a finder for his telescope.

Just before the ascension, Professor James announced that a landing would be attempted about midnight.

**Feared a Tidal Wave**

DULUTH, Minn., May 18.—A temporary general panic took place today from Minnesota point, a long and narrow strip of land, containing the homes of several thousand people, located between the finger of Lake Superior and St. Louis bay, reaching between Duluth and Superior, Wis. Residents of the point district have read with misgivings the reports of the approach of Halley's comet. The more timid declare that the point, situated at the apex of Lake Superior, and not more than a dozen feet above sea level, would easily be submerged should the comet drag a tidal wave up the lake and sweep on into St. Louis bay.

**Lightning Rods Removed**

NEENAH, Wis., May 18.—Fearful that the rods might attract dangerous substances that might accompany the comet today, many farmers in this vicinity removed the lightning rods from their homes and barns and took other extra precautions.

**Wireless Not Affected**

SEATTLE, Wash., May 18.—At the local headquarters of the United States army signal corps, which has charge of the government cable to Alaska and several wireless stations in the northern territory, it was said tonight that the passage of the earth through the comet's tail has had no effect on the operation of the cable system or the wireless stations.

The cable and the wireless stations in the far north respond readily to outside interference.

Last fall when Mars was comparatively close to the earth great difficulty was experienced in operating the cable and the wireless. Tonight, however, there has been no interruption, the signals being clearer than usual.

**Wireless Working Well**

LOS ANGELES, May 18.—Contrary to expectations, the passing of Halley's comet has not interfered in the slightest with the workings of wireless telegraph up to tonight.

Local stations report that the wireless worked better than usual last night and today. Nine ships reported their positions, and one of them—the big liner Manchuria—was far across the Pacific.

Since Monday morning all wireless operators throughout the country have been watching for unusual phenomena in connection with the comet at the request of the hydrographic office of the government.

Scientists expected electric magnetic disturbances which would affect wireless telegraph instruments as the comet appeared, but these have not occurred.

**Viewed From Skyscraper**

[Special Dispatch to The Call]

STOCKTON, May 18.—Members of the Yosemite club assembled on the roof garden of the eight story Stockton Savings and Loan society bank building tonight to witness Halley's comet.

The committee in charge of arrangements for the comet party sent out artistically arranged invitations showing Halley's comet and Venus gliding over the local four mills. The invitation read:

Whereas, in order that the members of the Yosemite club may be apprized of the various gases contained in the tail of Halley's comet with all due honor, the said

members will be pleased to gather together on the roof garden of the Stockton Savings and Loan bank building the evening of Wednesday, the 18th instant, during which time the earth will be swept by the tail of the celestial visitant. The festivities commence at 11 o'clock.

**Miners Keep Underground**

DENVER, May 18.—Preferring the dangers they know to those of which they are ignorant, many of the foreign miners employed on the day shifts of the Leadville and Cripple Creek mines remained underground tonight. "I can tell what is liable to fall on me underground," said one old "hard rock," as he started into the Yak tunnel at Leadville "but I want 1600 feet of Leadville granite between me and them comets."

**Negroes Purchase Charms**

ATLANTA, May 18.—Dealers in "conjure" bags in the negro sections of the city carried on a thriving business today as the result of the scheduled trip of the earth through Halley's comet tonight. Meetings also were held in the churches today.

**Fear Causes Suicide**

ALBUQUERQUE, May 18.—Telling his neighbors that he believed the comet would destroy the earth tonight and that he did not want to see the spectacle, Augustine Paraisse, a wealthy ranchman, committed suicide today by drinking poison.

**GROUPS OF SPOTS ON SURFACE OF THE SUN OBSERVED BY SAVANTS**

By Prof. Jerome S. Ricard, S. J. Of the Observatory of Santa Clara College

After nearly two months of rest the solar surface is showing a recrudescence of activity well worth of a maximum period. On May 18 at 1 p. m. there could be seen a large intensely blue colored spot, convex to the westward, concave to the eastward, in shape nearly like a half moon.

As a master spot it had a retinue of 14 little ones, or pores, following in the rear. He did not want to see the spectacle, Augustine Paraisse, a wealthy ranchman, committed suicide today by drinking poison.

**Might Be Due to Comet**

NEW YORK, May 18.—Doctor H. Jacoby, professor of astronomy at Columbia university, said tonight that the sun spots reported today from various observatories in the west might be due to the passage of the comet across the face of the sun or they might be merely fortuitous.

"The sun spot observed by Father Brennan," he said, "is unusually large, but not the largest recorded, if my memory serves me right."

"I shall be very much interested to hear the detailed reports of those observatories that watch the sun. Columbia does not observe the sun and we have nothing to record here."

**POLO PLAYER ENDS HIS LIFE WITH REVOLVER**

Captain Claude Champion de Crespigny Found Dead

LONDON, May 18.—Captain Claude Champion de Crespigny of the Second Life Guards, a member of the Hurlingham club polo team, which recently visited the United States, committed suicide by shooting today.

The captain was found, revolver in hand, seated at the roadside near Kingscliff, in Northamptonshire, where he had been the guest of Lord Brassey.

The captain is a son of Sir Claude Champion de Crespigny, and was 37 years old. He served with the British army in South Africa in 1899-1900 and with the West African frontier force in 1907. He was twice wounded and was twice recommended by his commanding officer for the Victoria Cross because of deeds of conspicuous gallantry. He made many friends in America during the international polo contest.

**Not Connected With Comet**

VALLEJO, May 18.—Prof. T. J. See of the United States naval observatory at Mare Island tonight, referring to observations of the sun today, said:

"The sun spots will reach the sun's central meridian in another day or two, and if any disturbance of the earth's magnetism is to occur from this cause it is likely to come about Friday. The spots now seen are not believed to have any connection with the comet. The largest spot observed at Mare Island was estimated to be 50,000 miles long and 30,000 miles wide."

**Of vast Dimension**

PASADENA, May 18.—While waiting for any manifestations of the comet's proximity, Director George E. Hale of the Carnegie observatory on Mount Wilson, trained the big telescope and solar photographing apparatus on the spots that now mark the sun's face.

He and his assistants found one large group of spots located approximately in the center of the sun, a smaller group, which Director Hale says appears to be associated with the larger, and a single small spot standing on the edge of the sun.

Director Hale estimated the total length of the large group to be about 100,000 miles. The penumbra, or

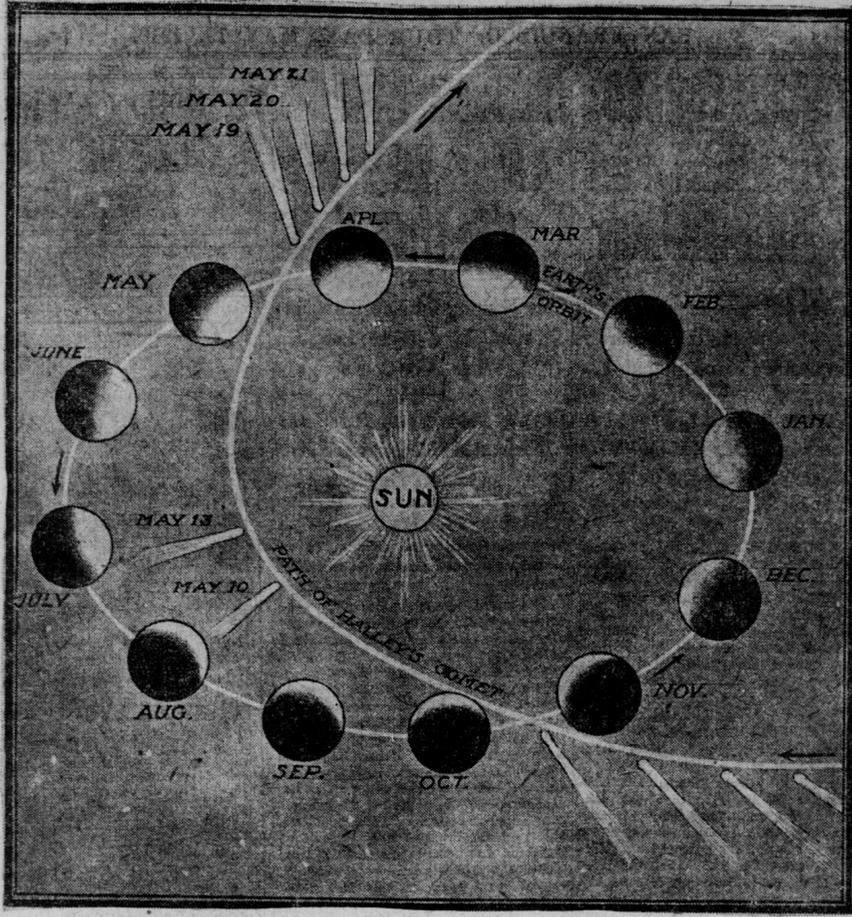


Diagram showing the path of the earth and how the orbit of Halley's comet crosses it as the great sky torch passes between our globe and the sun.

## HUGE SPOTS APPEAR ON SURFACE OF SUN

### Tremendous Disturbances in the Orb of Day Probably Not Caused by Any Influence Of the Comet

## EXTENT OF MONSTER CAVITIES

### SIX TO BE CONSECRATED BISHOPS AT SAME TIME

### Impressive Ceremony Takes Place Today at St. Paul

ST. PAUL, Minn., May 18.—An extraordinary ceremony will take place tomorrow morning in the chapel attached to the Catholic Theological Seminary, where six priests of the ecclesiastical province of St. Paul will be consecrated bishops at the same altar.

It will be the first instance in the history of the church in this country where several priests have been raised to the episcopal dignity before the same altar.

The similar occurrence of record within a quarter of a century was when Pius X consecrated several French bishops in St. Peter's directly after the separation of church and state.

One of the six, Rev. Father John J. Lawlor, will be auxiliary bishop of St. Paul. The other nominees are the mixed-blood, Right Rev. Vincent Wehrle, who became bishop of Bismarck, N. D.; Right Rev. Patrick Heffernan, named for the diocese of Fargo, N. D.

### NANKING SITUATION REPORTED SERIOUS

### Disquieting Anti-Foreign Rumors Exist, Says Calhoun

WASHINGTON, May 18.—United States Minister Calhoun at Peking reports a serious situation at Nanking. In a telegram to the state department he says the consulate at Nanking advises the legation that there are disquieting anti-foreign and anti-dynastic rumors, not unlike those which preceded the Boxer outbreak.

The consular body at Nanking has presented a memorandum to the viceroy calling his attention to the serious conditions and emphasizing the importance of immediate measures to stop the anti-foreign movement.

The minister has telegraphed Rear Admiral Hubbard, now in Chinese waters, to hold a warship in readiness to proceed to Nanking in case of necessity. Calhoun adds that the crop outlook is not good and that there is a great deal of pessimism in Peking.

### Fog Prevents Observations

VALLEJO, May 18.—Observations which Prof. T. J. See, in charge of the government observatory here, sought to make just before sunset were prevented by a heavy fog which overcast the sky. The early evening sky, watched through the clouds, showed unusual phenomena or meteoric displays.

### EXCURSION BOAT SINKS, IMPERILING MANY LIVES

KANSAS CITY, Mo., May 18.—Panic-stricken by the realization that they were on a sinking steamer, 150 passengers—men, women and children—struggled and fought madly to escape from the excursion steamer Uncle Sam when it struck a rock bar and capsized in the Missouri river near here this afternoon. Only the coolness of the boat's crew prevented loss of life.

Officers of the government steamer Missouri, seeing the plight of the Uncle Sam, rushed to the rescue. The crew of the excursion boat found it impossible to use the lifeboats.

In less than 10 minutes after the boat struck, every passenger was taken off safely.

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