

The Heavens in June

By Prof. Eric Doolittle, of the University of Pennsylvania.

The observer who has looked at the evening sky from time to time during the past weeks has seen the brilliant winter groups of stars slowly sinking in the West, one after the other, until now only the beautiful Leo remains with us. Meanwhile the summer groups have been mounting steadily upward from the East, the great Bootes, which leads them all, reaching this month the highest point of the heavens and shining out with its magnificent golden star Arcturus, directly overhead. The summer branch of the Milky Way, whose countless stars near Orion and Sirius are wonderful-

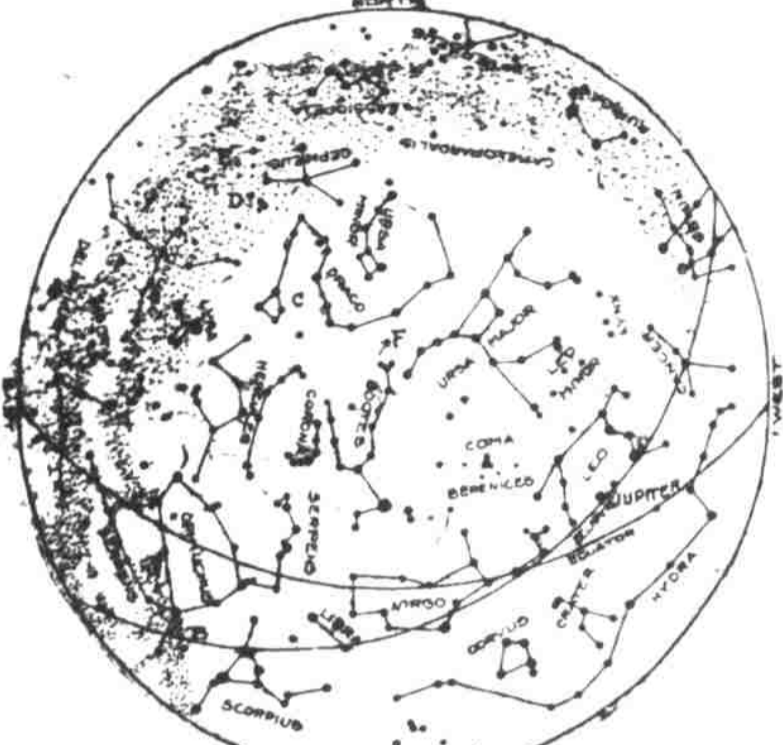


Figure 1—The constellation at 9 p. m., June 1.

ly gathered into great cloud forms, and in other portions are arranged in long streamers or branches, is now well up from the ground in the East. Lying along this golden highway are the beautiful Northern Cross, the brilliant autumn star Vega, the Eagle with its bright star Altair, and in the extreme southeast the striking group of the Scorpion, which has not yet entirely emerged from below the

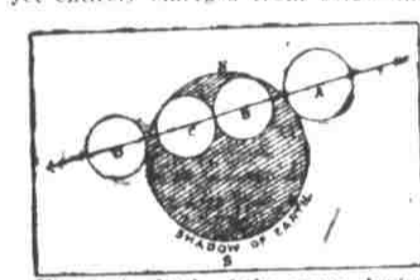


Figure 2—Path of the moon during the total eclipse of June 3.

ground. The observer may be interested in watching the disappearance of the Great Water Snake, Hydra, which for two months has been stretching almost entirely across the sky in the South. This group lies in such a position that almost all of its stars sink below the ground at the same time, in marked contrast to the group Bootes, which occupies many hours in disappearing.

SHOOTING STAR SHOWERS.
Swinging ceaselessly around the sun in great elongated orbits there are tens of thousands of clouds of meteoric matter, which by tidal action have been stretched out along their paths. In many cases the whole sheet is one long strip of little particles, not sufficiently dense to be seen in any telescope. But there are several hundred of these streams which lie in such a position that the earth passes through them once each year, each little particle encountered is then burnt up by its friction with the air, and is seen as a shooting star. Because these particles are moving par-

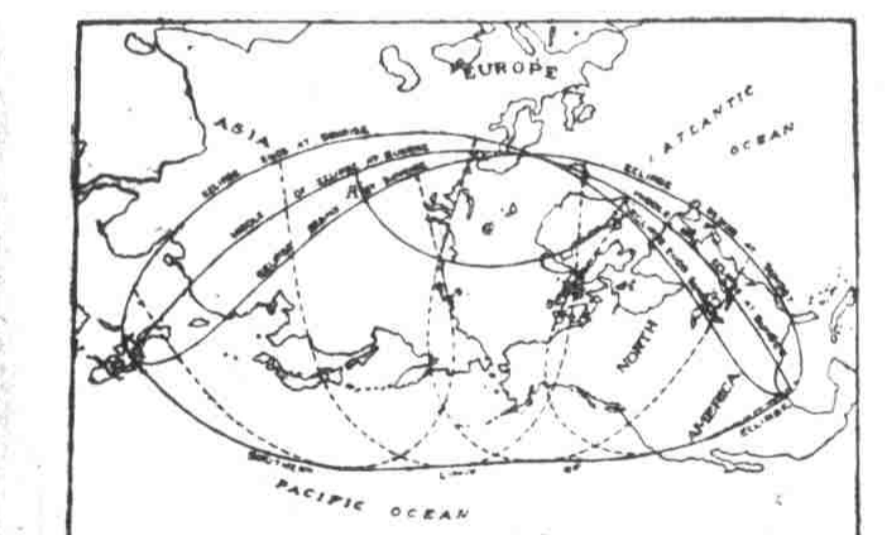


Figure 4—The eclipse of the sun June 17.

allel to one another when the earth strikes them the shooting stars of any swarm all appear to dart outward from the same point in the sky. The most brilliant showers are those caused by the dense swarms which the earth meets in August and November, but many interesting ones occur also at this time of the year. On any evening during June the observer, by careful watching, may see an occasional star move slowly over the sky in any direction from the region at B, Fig. 1, probably leaving a train behind it. Toward the beginning of the month swiftly moving stars may be discovered darting away from the points C, D and E, while on the 26th



Figure 5—

to the 28th a shower of slow moving stars, some of which leave trains behind them, will be seen to move outward from F. In all of these cases the swarm has become so scattered and thinned out that but few stars will probably be seen even after long watching. It is of great interest to reflect, however, that each one is a little body whose career is thus brought to a sudden end after it has circled for ages around our sun, and that now the nature and motions of even such apparently erratic and temporary little objects as these have

been found out by the astronomers.

THE ECLIPSE OF THE MOON.
During this month we will be favored with two most brilliant eclipses, one of the moon and one of the sun. The eclipse of the moon, which is caused by our satellite passing into the shadow of the Earth, will begin on the evening of June 3 at 6 hours 44 minutes and 24 seconds, Eastern standard time. The motion of the moon during this eclipse is shown in Fig. 2. The large circle N S represents the great conical shadow of the earth, which extends out into space in a direction exactly opposite the sun to a distance of 85,000 miles. The distance through this shadow at the point where the moon crosses it is nearly 6,000 miles; as our satellite is but 2,165 miles in diameter it may, therefore, pass completely into the shadow and become dark. In the present eclipse the moon will reach the point B and the eclipse become total at 7 hours 58 minutes and 6 seconds; it will reach C at 8 hours 59 minutes and 42 seconds, so that the eclipse will remain total, the moon being

completely hidden from the light of the sun for about two minutes more than an hour. After this the moon will begin to emerge, finally reaching the position D and the eclipse being entirely over at 10 hours 14 minutes 18 seconds p. m.

Unfortunately, the moon at this time is very low in the sky, lying almost as far below the equator as the

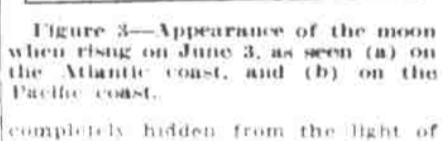


Figure 3—Appearance of the moon when rising on June 3, as seen (a) on the Atlantic coast, and (b) on the Pacific coast.

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ROBERT TOWNSEND HOUGH

BY SAVOYARD.

A little more than a quarter of a century ago, the hot summer of 1882, I spent some weeks in a little village of north Texas. It was a wooden town built on the sand, the houses scattered hither and thither south of a narrow gauge railroad. The tavern was kept by an old fellow named Ragland, and he fed his guests on passably good fried chicken and miserable porkhouse ham from St. Louis. The biscuits were plentiful, with fat, inedible from soda, an aphorism of indigestion, a provocation to dyspepsia and a challenge to misery. The cornbread was even worse and seemed to be made of starch. The coffee was exorable and the milk horrible. In some compensation there were a few fig trees, not entirely barren. In the woods round about were scrub pine and scrub post oak, sand like Sahara, and copperhead snakes like the locusts that plagued Pharaoh.

In that little town convened that hot month of June the Circuit Court. The district judge, who presided, became Chief Justice of the State. The district attorney was later Attorney General and after that Governor of Texas. A young lawyer at the bar was also elected attorney general, Governor, and is now a Senator in Congress and leader of the minority in that body. Buck Kilgore was another practicing lawyer there, and so was DeGraftenried, another Congressman from Texas. There were others who attained to high places in the business world. All are old Ragland's chickens, and some of them old Ragland's table—also his beds, particularly his beds, and especially his beds.

From that day I have never despaired of American citizenship. Here was the best town in the world in which to die, and you could take a stone "from head to end" of it, and yet that community produced enough men who subsequently became distinguished to lend lustre to a big city.

I am now about to write something of a great and good man, who came from a little town of Ohio. He is unheralded to the world, but his is a luminous mind and his a heart of gold. The woods are full of such people in our grand republic. They are the salt of the earth, the conservators of the institutions fashioned by our fathers and now in the keeping of a later generation.

Just across the river from Kentucky may, however, see the latter part of the eclipse.

It is probable that our satellite will not become wholly invisible, but that even when completely immersed in the shadow it will shine with a dull, copper-colored light. The source of this light is the sunlight which is bent down within the shadow by the rim of air surrounding the earth. An observer on the moon would see the earth at this time surrounded by a brilliant ring of red light. If, however, the regions of the earth along this ring are cloudy, so that the sunlight cannot penetrate it, the disc of the moon may become wholly invisible.

THE ECLIPSE OF THE SUN.

On the afternoon of June 17 there occurs a total eclipse of the sun which is only visible as a partial eclipse except to observers along the line AB, Fig. 4. At the middle of the eclipse, when the sun is most nearly covered, it will appear as shown in AA, Fig. 5, to those along the lines BB and CC. It will appear as shown at B, B and C, Fig. 5, respectively, while those below the line DD will see no eclipse at all. In the Northern States

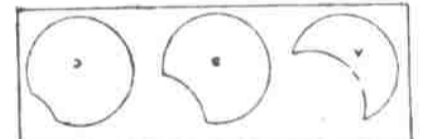


Figure 5—Appearance of the eclipsed sun as viewed from stations along the lines AA, BB, etc., of Figure 4.

the eclipse will begin at about 7 p. m., Eastern standard time, and in the Southern ones at about 8 p. m. Observers along the line HK will see the sun set when the eclipse is just half over, those to the east of this line will see the beginning of the eclipse only.

THE PLANETS.

Jupiter is still high up in the sky in the constellation of Leo, but none of the other planets are visible in the evening. Mercury and Venus are still too near the sun to be satisfactorily observed, the latter planet setting 40 minutes after sunset on June 1 and 80 minutes after sunset on July 1. Saturn and Mars are morning stars, and may be seen a few hours before sunrise, the former in the constellation Pisces and the latter in Aquarius. Mars is now rapidly approaching the earth, but it will not be in good position for observation until next autumn.

ERIC DOOLITTLE.

is Highland county, Ohio, settled by the Quakers and the Methodists. Foraker came from there, and so did Beveridge. It was an anti-slavery community, and intensely hostile to African slavery as it existed at the South, and Hillsboro was a way station of the Underground Railroad.

Before the close of hostilities between the North and South and ere the soldiers came from the front there was a wheat threshing in Highland county, such work as we had in the earlier day when neighbor helped neighbor and grain was threshed by horse-power, and they had a big and sumptuous dinner at the farmhouse at midday. On this occasion some twenty men and boys were at work threshing a crop of wheat in a district of Highland county that had not a single Democratic vote. There came down the dusty road a paroled rebel soldier, who had left Ohio before the war and settled in the South where he joined the Confederate army. As he passed along one of the farmers engaged in the work of threshing said to the hands, "We ought to mob that traitor."

A big lusty boy 19 years of age sprang from the straw stack, took the man in hand, and in impassioned voice exclaimed, "That man has as much right to travel unmolested the highway as anyone here," and he declared that such talk as the opulent and ignorant farmer had uttered was despicable. The crowd gathered around the youth and uttered many savage threats against him. He weighed 190 pounds, his muscles were as iron, and his eyes as fire. He had a giant's strength, and gripping his pitchfork, he uttered the defiance, "Come on, I can whip any ten of you." The entire layout was tamed by the master spirit of the boy and work was resumed and politics dropped.

Robert T. Hough was the boy, and the boy was father to Robert T. Hough, the man, the jurist, the thinker, the gentleman, whom I came to know some forty years later. His father was a Methodist and an abolitionist, but this boy became a follower of Vallandigham and a reader of The Cincinnati Enquirer. Character is the only coin that is full legal tender, and young Hough, when a candidate for office in that community some years later, on the Democratic ticket, got 48 majority in that very precinct where not a Democratic vote was cast in 1854.

As was the case of Frank Hard, the intolerance of fanatic Republicans made an intense Democrat of Robert T. Hough, and he would vote his party's ticket though it were headed by the eternal old cloven-footed devil himself. In 1871, at the age of 22, Robert T. Hough was graduated from the Cincinnati Law School, and soon thereafter he was elected clerk of the circuit court of Highland county. When the term expired he entered actively on the practice of law and took high rank at the bar. Mr. Cleveland appointed him a member of Internal Revenue, and no other man ever held that responsible office. His history of and argument upon the income tax

schedule of the Wilson tariff bill is a production of which any leader of the American bar might well be proud; but it is a practitioner in the court room that Judge Hough has gained most reputation. He is that marvel of lawyers—one never taken by surprise, never captive of a flank movement of an adversary.

When McKinley was first elected, Judge Hough resigned his office and entered upon the practice of his profession at Washington, where his friends are numbered by the scope of his acquaintance. A man of the broadest character, one of those sinners, "of whom and one of which," who believe it was the mission of our blessed Lord and Saviour to succor "the unworthy poor" and bring solace to the heavily laden in spirit, Hough is narrow in nothing but his politics. He is a "yaller dog" Democrat, and that sentiment is embodied in the narrowness of his great, ponderous, Pennsylvania Dutch corporosity.

His most intimate personal friend is Judge Keegan, an Irishman, a Catholic, a fellow lawyer and a Republican. Antagonistic in a thousand ways, religious and political, the two are as closely knit in friendship and fellowship as any two brothers in all the land. While I that write this plead guilty of the charge of being something of a ruffian, I envy Hough and Keegan the character universal they have made as perfect gentlemen. A term held all too cheap in our land; but it fits these two as the bark the tree.

I am now going to quote the daily prayer of Robert Townsend Hough, and if any boy in his teens or of tender years, shall do me the honor to read this account of a rather obscure great man, I want that boy to memorize this prayer, repeat it morn and eve, and live it:

"To-day let me live content, be clean, refined, worthy. Act frankly, go slowly, listen well, think quickly. Fear nothing, do my full share of the world's work, and rest to-night knowing I have injured nothing that exists."

That is simpler than the advice old Polonius gave Laertes and just as good. Suppose all men practiced what Judge Hough's prayer implies? Well, he and Keegan would be out of Jolo. There would be no use for lawyers, or governments in this damned wicked world we live in, Sir Oliver.

Foraker has run the first alarm again. See Proverbs xxvii: 11. He advises a resort to the anarchistic bomb to destroy the monument to Wirtz, whom the South holds a martyr, and the North a monster, and yet fewer Yankees died in rebel prisons than rebels died in Yankee prisons, and that too when the Christian North made medicine a contraband of war, something unprecedented since Cain invented war. This poor Wallenstein ever dreamed of what Jefferson Davis, the obliteration of his name from Captain John Bridge did him no harm, as its restoration did him no harm to good. And besides, his image on the silver service of the ship Mississippi did the navy no harm, as it did his fame no good.

All I meant to say is that Foraker is striving to bring copperheadism in fashion again in Ohio, and therefore it may become necessary for Judge Hough to return to that State and run for Governor on a Vallandigham ticket.

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