

LOOKING FORWARD TO A PAST EVENT Algol in Partial Eclipse

By the CN Astronomer

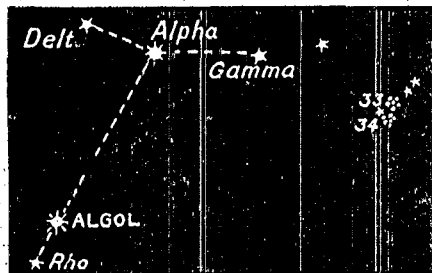
A good opportunity will occur on Monday, March 22, of observing a stellar eclipse that occurred 120 years ago, though apparently it will be taking place when observed between nightfall and midnight. Owing to daylight the eclipse will not become visible until it is about halfway through. We are thus paradoxically, as it were, looking forward to an event which has already happened long ago.

This is the passage of a great dark world between us and Algol, the great sun around which it revolves. It was 120 years ago that this great dark world together with Algol and our Earth came almost into a geometrical straight line sufficient to shut off about five-sixths of Algol's light. Our great-grandparents would have seen it then had Algol been not much farther away than our Sun, but as Algol and his great companion are about 7,594,000 times more distant the diminution in his light as observed by us will have taken all this time to reach us.

Time and Place

Since that distant day when all three bodies were almost in a straight line Algol and his companion have been speeding at a great rate in what appears to us a westerly direction, while our world together with our Sun and the whole Solar System of planets has been travelling at something like 725 miles a minute in another direction, nearly at right-angles to that of Algol. Consequently they are now very far from the line of that particular eclipse which we hope to witness on Monday. Thus we may be brought to realise that our perception of things must depend upon our point of view in both time and place, not place only, as used to be the case in Euclid's geometry. Hence the necessity for applying the geometry of Relativity in the vast regions of interstellar space by including Time as a dimension.

Now, though the Earth, Algol, and his great dark world will never again come into that particular line so as to



The chief stars of Perseus, showing the position of Algol and the double star clusters 33 and 34

cause the eclipse we hope to see on Monday, yet it so happens that the plane or level in which Algol's companion revolves round him is at such an angle that the eclipse is repeated every 2 days 20 hours and 49 minutes. Each eclipse, though apparently the same, is not of course an exact replica of the last, and a time will come some thousands of years hence when Algol's companion will no more pass between our world and Algol.

The star-map will enable observers to find Algol high up to the west of overhead between 7 and 8 o'clock, and if looked for on a previous evening, and its brilliance compared with near-by stars, it will be seen that at about 8 o'clock on Monday evening Algol's brightness will have diminished from 2.3 magnitude to nearly fourth. Only about one-sixth of Algol's light will then be reaching us; and that will represent the middle of the eclipse, which it has taken about four hours to reach. In the course of the next three and a half hours, that is by about midnight, Algol will have regained his normal brilliance and our belated observation of this eclipse will be over. G. F. M.

FIRE

We shall never know who made the first fire, but we know that civilisation began round a fire.

Without fire the peoples of the earth would still be wandering tribes, for it is fire which cooks our food, gives us the mastery of metal, strengthens our pottery, shapes our tools, gives us the power of steam, drives our machinery, and warms our houses. From the fire at the mouth of the cave in which Stone Age men found shelter to the roaring fire in our homes on winter evenings fire has been one of man's best friends.

But it has sometimes been his enemy. Fire from the depths of the earth destroyed Pompeii. In 1666 fire swept away old London, and last century fire burnt down the town of Vancouver and prepared the way for the great city of today. The fires of Smithfield sent their flames curling round tortured martyrs dying bravely for their faith.

Round the Fireside

The Greeks said it was Prometheus who stole fire from heaven and gave it, as a priceless gift, to men; and 500 years before Christ there were fire-worshippers in Persia. There have been lovers of firesides ever since.

No poet loved the fireside more than Longfellow, who gathered his travellers at the Wayside Inn, where

The firelight, shedding over all

The splendour of its ruddy glow,

Filled the whole parlour large and low.

Stories are told round the fireside; families unite at Christmas time, books are read far into the night, secrets are whispered, memories recalled, and dreams dreamed. Young Abraham Lincoln stole his neighbour's firelight by making a hole in the wall and reading his books by the red glow.

Little Polly Flinders

Sat among the cinders.

Cinderella had to stay at home by the fire while her ugly sisters went off to the ball.

Flames on the Hilltops

On hill and headland have burned bonfires kindled for national rejoicing; and in Armada year the news that Spain had sent over her invincible fleet flamed across the land. Curfew still rings out in England where the Conqueror ordered fires to be out soon after sunset, and for long years the ordeal by fire was part of our English law.

Believed at one time to be one of the four elements, fire was long regarded as mysterious. On altars in the Old World and the New have burned inextinguishable fires; and the Bible has wondrous stories of the pillar of fire in the wilderness, of Elijah's chariot of fire, of the fire which fell from heaven and consumed the burnt offering on Mount Carmel, and of the burning fiery furnace. The burning bush from which God spoke to Moses and the cloven tongues of fire in the upper room, all show that fire has ever been the symbol of power and mystery.

25 YEARS AGO

From the CN of March 1912

Wild Adventures on a Roof. A bullock broke away from a herd which was being driven to a London cattle market, and, spying an open doorway, plunged through it and blundered up the staircase. The animal weighed 15 cwt, and the staircase comprises over 50 steps and eight sharp curves; but, though it seemed impossible, the bullock got safely to the top, and mounted the flat roof.

For between two and three hours the animal kept its pursuers at bay. At last a rifle was sent for and the ox was shot.

MAKER OF MUSIC HE COULD NOT HEAR Ludwig Van Beethoven

WHAT HAPPENED ON YOUR BIRTHDAY
IF IT IS NEXT WEEK

Mar. 21. Bach, the composer, born at Eisenach 1685
22. Van Dyck, the artist, born at Antwerp. 1599
23. Richard Proctor, astronomer, born Chelsea 1837
24. Longfellow died at Cambridge, USA 1882
25. Parliament abolished the Slave Trade. 1807
26. Beethoven died in Vienna 1827
27. Wilhelm Röntgen, X-rays discoverer, born 1845

LUDWIG VAN BEETHOVEN, whom many regard as the greatest musician who has ever lived, was of Dutch origin, but lived chiefly in Vienna.

He was bred and born a musician. At the age of eleven he was an organist and went on tour as a player of the piano and organ. First known as one of the most famous players in Europe, he became the most famous composer, and his works have grown in popularity.



In his 28th year Beethoven began to lose his hearing, and at last was totally deaf, yet he continued to produce splendid music, which he could imagine, though he could not hear it.

In character he was far from agreeable, that is, he was often rough in manner and violent in temper; but people bore with him and forgave him because of his genius, the misfortune of his deafness, and his known kindness of heart.

THE HIDDEN STREAMS Yorkshire Trying To Map Them

One of the most fascinating features of what is known as the Craven District of Yorkshire is the wonderful series of pot-holes leading down to underground streams. Coleridge wrote of a land

*Where Alph, the sacred river, ran
Through caverns measureless to man
Down to a sunless sea,*

and such caverns are to be found by the score in Yorkshire. For years attempts have been made to trace these hidden rivers and to map their courses.

One of the methods used in the past has been to throw colouring matter into the pot-hole and watch for its reappearance, but often the colouring matter has never been seen again. Now a new attempt is to be made on scientific lines, and a harmless chemical has been found which can be traced by a simple colour change when some other chemical is dissolved in water perhaps miles away.

Another method to be tried is one involving the use of electric instruments, by which it is hoped to place exactly the course of a subterranean river. We may be sure that before long the meanderings of Yorkshire's hidden waterways will be as well known as those of rivers flowing above ground.

A COMEDY IN A PARK

It is said that ducks are so inquisitive they may be decoyed by the movements of a dog.

A little dog capering about on shore will attract their attention, and they will be so anxious to see what is going on that they will swim close to the place.

Apparently even a sedate cat is enough to make ducks curious, for the other day the ducks in Roundhay Park at Leeds went to look at one.

Very odd it was to see how they gathered from various parts of the canal till a group of them were only a few feet from the edge. When the cat walked the ducks paddled on alongside. When he stopped the ducks stopped. When he turned round and went back all the ducks followed. If he moved quickly the ducks raced with him; and someone who saw it all declared it was one of the drollest sights imaginable!

A LOVELY SKYSCRAPER Monument To Learning SUCCESSOR OF A LOG HUT

Can a skyscraper be lovely? The answer is Yes, if it is built in the right way and in the right surroundings.

Pittsburg, the great American city of steel, is just completing a skyscraper University building, 42 storeys high, which is undoubtedly the tallest university in the world. It piles up magnificently, and one sees at a glance its inspiration.

It is lovely and magnificent because it affects us like the majesty of a mountain. Broad at the base, it diminishes as it ascends, not with regularity, but with just the effect of natural solidity produced by towering rocks. It has grace withal. Very truly it is a glorious pile, and not a gaunt skeleton of iron clothed in masonry or concrete. Almost one could believe that some giant-genius had carved a great rock into lovely columns and gracious arches.

Pittsburg is to be congratulated on this monument to learning, which is to house 14,000 students taught by 900 professors. It is also to be congratulated for having cherished learning as long ago as 1787, when the Academy of Pittsburg was founded in a three-roomed log cabin 20 feet wide and 14 feet deep, possessing a single stone chimney! The change speaks of 150 years of human progress. In 1787 America had no steel industry and a population of only three and a half millions.

We ought to add that the new Pittsburg University is built in open surroundings, so that it stands alone. What makes New York City so hideous from the sea is the view of a dense group of skyscrapers calling out upon each other.

HALF A MILLION MILES OF PIPES

The Railway's Greatest Competitor

The work done by a railway is measured in modern units by the ton-mile.

In northern America the railroads last year dealt with 500 million ton-miles, motor vehicles with 34,000, and aeroplanes with 33 million ton-miles.

But the astonishing fact has been revealed from last year's statistics that pipe-lines came next to the railways in the load they carried, with 400 million ton-miles. There are 211,000 miles of water-pipes, 100,000 miles of oil-carrying pipes, and more than a quarter of a million miles of gas-pipes, all busy pipe-lines conveying essential materials to the population.

In connection with this modern method of transportation it is interesting to know that, long before the famous aqueducts were built by the Romans, ancient Chinese engineers had used hollow bamboo poles, ingeniously fitted into each other, for conveying natural gas from the source to the consumers.

1 2 3

19,183 visitors from abroad came to Great Britain in January.

600,000 motorists are members of the A. A.

933,513 spectators watched the five Test Matches.

1,236,547 accidents happened in industrial centres between 1927 and 1935.

2,000,000 is the gross tonnage of the 384 ocean-going motor-ships on order in the world's shipyards.

3,730,008 ounces was Canada's gold production in 1936.

£4,500,000 is being spent by the G. P. O. on new telephone cables.

£70,000,000 is paid annually in taxes by motorists.

£200,000,000 is paid every year by America's cinema public.